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**SOCIAL PROBLEM-SOLVING
SKILLS TRAINING AND ADULTS
WITH INTELLECTUAL
DISABILITY**

A thesis presented in partial fulfilment of the
requirements for the degree of

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Abstract

Previous research has demonstrated that social problem-solving training can significantly improve social problem-solving skill and maladaptive behaviour in adults with mild intellectual disability. A multiple-case study design was used to extend these findings by investigating whether social problem-solving training can decrease psychological distress (i.e., low self-esteem, anxiety and depression), as well as social problem-solving skills and behaviour. Five participants from a vocational community centre, with mild intellectual disability and mental illness and/or challenging behaviour, were invited to participate in 15 sessions of Social problem-solving training. Social problem-solving skill was measured by structured interview, and adaptive and maladaptive behaviour by Adaptive Behavior Scale, before and after training. Participants completed self-reports on depression, anxiety and self-esteem at baseline, pre-treatment, mid-treatment, post-treatment and follow-up. Three out of the five participants completed the training. Participants' individual test-scores and case histories are presented. All three participants showed improvement in social problem-solving skills, and two participants showed improvement in depression. There was no noticeable change in self-esteem or anxiety, but support workers reported improvement in behaviour for two participants. Improvement was maintained at four-week follow-up. Future research may improve results and treatment integrity by involving support staff in the follow-up of between session homework tasks to improve generalization and learning, and by drafting a detailed treatment manual. Further improvement could be enhanced by decreasing the number of sessions to nine to decrease boredom, and by incorporating self-esteem training and social problem-solving training as a daily routine within the community centre.

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PREFACE

This thesis consists of a multiple-case study involving three clients from a vocational community centre. The material written in the results section contains personal and private information, and although the participants' names are hidden, there is a concern that they may be identified. To prevent this occurrence, the name of the vocational community centre is hidden and a two-year embargo of public accessibility to this thesis is applied.

This study followed ethical guidelines set out by the New Zealand Psychological Society and the American Psychological Association (2001). It also adhered closely to recommendations for working with individuals with intellectual disability as suggested by Bray (1998) from the Donald Beasley Institute (in particular to the means of gaining informed consent). In line with University regulations, the proposed study was reviewed and approved by the Massey University Human Ethics Committee and the Auckland Ethics Committee.

CHAPTER 1: MILD INTELLECTUAL DISABILITY

This chapter begins with a description of the definition and terms used for mild intellectual disability. It discusses the concurrence and under-diagnosis of individuals with intellectual disability who also have a psychiatric disorder, and the prevalence and presentation of psychological distress such as anxiety, depression and self-esteem. The chapter finishes with a discussion of the use of self-reports and their adaptation for individuals with intellectual disability.

Individuals with intellectual disability have a higher prevalence of psychiatric disorders than the non-disabled population, and yet often receive less treatment (Hatton, 1998; Nezu, Nezu, & Arian, 1991; O'Brien, 2002; Sternfert Kroese, 1998). It is suggested that there are difficulties surrounding the diagnosis of psychiatric disorders in this population, such as different presentation of symptoms and difficulties surrounding the use of self-reports in diagnosis and assessment (Caine & Hatton, 1998). Other problems, such as lack of trained staff and communication difficulties, lead to more focus on controlling the behaviour than treating the psychological distress hidden behind the behaviour (Caine & Hatton, 1998; Salvador-Carulla, Rodriguez-Blazquez, Rodriguez de Molina, Perez-Marin, & Velazquez, 2000).

The fourth edition of the Diagnostic and Statistical Manual of Mental Disorders defines mental retardation as "significantly sub average general intellectual functioning" accompanied by "significant limitations in adaptive functioning," with an onset before the age of 18 (American Psychiatric Association, Diagnostic and Statistical Manual of Mental Disorders (4th ed.), 1994, p. 39). Similarly, the American Association of Mental Retardation (AAMR) defines mental retardation as "significant limitations both in intellectual functioning and in adaptive behavior," originating before the age of 18 (American Association of Mental Retardation, 2003). Eighty five percent of individuals with intellectual disabilities fall within the mild intellectual disability category. These

individuals can usually achieve social and vocational skills with support, but may need extra guidance and help when under stress (DSM-IV, 1994). The DSM-IV (1994) defines mild intellectual disability as an IQ between 50 and 75 with a mental age of between 9 and 12. Generally, these individuals have developed social and communication skills, and have learned academic skills up to sixth grade (DSM-IV, 1994).

The term 'intellectual disability' is used interchangeably with other terms such as, 'learning disability', 'mental retardation' and 'mental deficiency' in the literature. The term 'learning disability' is generally used in Great Britain (Sternfert Kroese, Dagnan, & Lournidis, 1997), but this term is sometimes confused with reading and mathematical learning disabilities. As an alternative, and to avoid language likening the person with their condition, the term 'intellectual disability' is preferred and adopted for the present purpose of this study. The use of this term follows the American Psychological Association's (2001) guidelines to reduce bias in language.

Studies in Europe and North America report that the prevalence of individuals with mild intellectual disability is between 0.4 and 0.6 percent of the total population, with considerably more males than females (1.6:1) experiencing the disability (Hatton, 1998). In New Zealand the prevalence is approximately 1 percent of the total adult population (Statistics New Zealand, 2001). These prevalence rates may be underestimated in early childhood and adulthood for two reasons. Firstly, the cause of mild intellectual disability is often unclear, and is often diagnosed later than moderate and severe intellectual disability. That is, mild intellectual disability may only be diagnosed once the child reaches school. Secondly, once leaving school the individual may not use services for adults with mild intellectual disability. These two factors lead to an underestimation of the prevalence rate of mild intellectual disability in adulthood, as well as in early childhood (Hatton, 1998).

Concurrence with psychiatric disorders (dual diagnosis)

The International Statistical Classification of Diseases and Related Health Problems (ICD-10) states that reduced levels of intellectual functioning in this population, results in a

reduced ability to adapt to the daily demands of social activity (World Health Organization, 1992). People with intellectual disabilities are more likely to experience psychological problems than those without, and consequently are more in need of psychological services (Nezu, Nezu, & Arian, 1991; O'Brien, 2002; Stemfert Kroese, 1998). They have more exposure than the general population to experiences such as loss and failure, and less opportunities to learn adaptive ways to cope with stress. These factors lead to mental health problems (Caine & Hatton, 1998; Nezu et al., 1991). A literature review investigating the percentage of individuals with intellectual disability with a co-existing psychiatric disorder, show a prevalence of between 10 – 19%, two to five times that of the non-disabled population (Webb, 1996). One additional study found that the prevalence of psychiatric disorders within a vocational setting ranged from 30 – 40%, with higher rates of psychoses, autism and behavioural disorders (Salvador-Carulla et al., 2000).

The diagnosis of mental health problems in individuals with intellectual disability has generally been neglected (Caine & Hutton, 1998). Until the 1950's, professionals had little interest in the mental health problems of intellectually disabled individuals, and had a general belief that these individuals were too psychologically immature to suffer from mental illness (Nezu, Nezu, & Gill-Weiss, 1992). This bias has continued to the present day, where very little focus is given to mental illness within the intellectually disabled, in graduate counselling and clinical psychology programmes (Molony, 1993; Nezu et al., 1992). The problem of under-diagnosis may be also caused by a number of factors, including, (a) the fairly recent separation of mental health and intellectual disability services, leading to training of professionals in either mental health issues or intellectual disability, but not of both (b) the difficulty in assessment due to reading/writing and communication limitations, (c) diagnostic overshadowing where symptoms are attributed to the disability rather than to the individual's mental health, (d) confusion between challenging behaviour and mental health, (e) inadequate referral systems, and (f) because many people with intellectual disability live and work in community-based programmes, where psychiatric disorders are often not detected by untrained staff (Caine & Hutton, 1998; Salvador-Carulla et al., 2000). For example, as described previously, a study in a vocational setting found that there was a 50% hidden morbidity rate of psychiatric disorders (Salvador-Carulla et al., 2000).

Different symptoms of psychological distress

Individuals with intellectual disability present with symptoms of psychological distress different to that of the non-disabled population. Variability of symptoms among the intellectually disabled may exacerbate the problem of under-diagnosis of psychiatric disorders. Anxiety is a reaction to perceived threat, in which the body responds with sympathetic nervous arousal and behaviour change (Barlow, 1988; Kaplan & Sadock, 1998). In individuals with intellectual disability this response is often not recognised as being caused by anxiety and is consequently misdiagnosed as a behavioural problem (Ranzon, 2001). Generally, individuals with intellectual disability show greater levels of performance-related anxiety, with more aggression toward the self and others, and fewer intrapsychic symptoms (Lindsay, Neilson & Lawrenson, 1997). In addition, depression symptoms in this population, may be masked by the presentation of more externalising symptoms of depression (e.g., aggressive behaviour, self-injurious behaviour) than internalising symptoms of depression (e.g., low mood, social withdrawal, lack of appetite) (Bramston & Fogarty, 2000; Reed, 1997). There are high correlations between measures of anxiety and depression, suggesting that, for this client group (similar to the non-disabled population), both anxiety and depression should be considered if one or the other is presented (Lindsay, Michie, Baty, Smith, & Miller, 1994).

Psychological distress

Anxiety

Individuals with intellectual disability have a greater likelihood of suffering from anxiety than the non-disabled population (Lindsay et al., 1997; Ranzon, 2001). Suggestions for a higher frequency of anxiety in this population could be that individuals with intellectual disability have less control over their environment, have some level of impaired communication ability, have fewer close friendships and weaker support, have lower cognitive abilities leading to poor coping skills, and are subject to more negative response from others (Lindsay et al., 1997; Ranzon, 2001). One study investigating the prevalence of functional psychiatric illness among a community-based population found that the 6.2%

prevalence rate of anxiety disorder was similar to that of the general population (Deb, Thomas, & Bright, 2001). The study proposes that it is possible that the manifestation of anxiety disorders is different from that of the normal population, and that anxiety symptoms rather than anxiety disorder may be more common in this population.

Little attention has been given to the cause, nature and extent of anxiety disorders in individuals with intellectual disability, although some preliminary research has shown that individuals with intellectual disability show more performance-related anxiety than the non-disabled, show more aggression towards the self, and present with less intrapsychic symptoms (Levine & Langness, 1983; Stack, Haldipur, & Thompson, 1987). Reasons for the lack of research in this area are that, firstly, there is little value and interest in this population for clinical research professionals, secondly, there is an assumption that individuals with intellectual disability have a less stable cognitive system, and that this leads to difficulties in diagnosis and questions regarding emotional and behavioural change, and thirdly, anxiety in individuals with intellectual disability presents in the same way as the non-disabled population and therefore does not require specific research (Lindsay et al., 1997; O'Brien, 2002). This lack of research has implications on treatment for anxiety in individuals with intellectual disability. For instance, bizarre behaviour such as stripping off clothes and repetitive movements may be assumed to be symptoms of psychosis rather than anxiety, and even if no clear psychiatric diagnosis is made, individuals with intellectual disability are often prescribed anti-psychotic medication rather than anti-anxiety medications (Caine & Hatton, 1998; Molony 1993; Nezu et al., 1992; Ranzon, 2001).

There are many compensatory strategies which non-disabled individuals use to reduce sympathetic arousal following anxiety (Barlow, 1988; Vaillant, 1971). These methods may present with challenging behaviour in people with intellectual disability (Ranzon, 2001). For example, physiological responses to anxiety, such as contraction of the sphincter muscles or sweating, may translate to behaviour such as inappropriate defecation or picking at skin. In addition, individuals with intellectual disability may physically avoid a stressor by tantrums and by diverting attention to self-injury (Grodén, Cautela, Prince, & Berryman, 1994; Ranzon, 2001). Alternatively, they may reduce unpleasant arousal by humming or

rocking, or they may release adrenaline by screaming or running. Finally, as a means of dealing with a stressor, they may approach it and attack. For example, if loud noise causes anxiety in an individual, and the individual does not have the communication skills to ask the noisy person to be quiet, the individual may physically attack the perpetrator as a means of relieving anxiety (Ranzon, 2001).

Depression

In addition to anxiety symptoms, many individuals with intellectual disability suffer from depression. A review of research findings concerning psychiatric disorder among offenders with intellectual disability, found that major depression has been reported in 1% to 5% of people with intellectual disability, 1.5 to 2 times that of the general population (O'Brien, 2002). One particular study found that the overall rate among adults with intellectual disability in the community, was similar to that found in the general population, although the rates of schizophrenia and phobic disorder were significantly higher (Deb et al., 2001). An explanation of these differences are that there are difficulties with detecting and diagnosing depression in this population, as symptoms of depression are often overlooked as overt disturbances of behaviour. In addition, individuals in this population often show atypical signs of depression, and may be unable to give a verbal explanation of their symptoms (O'Brien, 2002).

The same processes that are related to depression in the non-disabled population are also related to people with intellectual disability. Depression in people with mild intellectual disability is correlated with the frequency of negative automatic thoughts and feelings of hopelessness (Dagnan & Sandhu, 1999). These researchers have demonstrated that individuals with intellectual disability evaluate themselves through social comparison, find themselves wanting, and develop depression. In addition, those with depression and intellectual disability, show a greater frequency of negative automatic thoughts, higher levels of feelings of hopelessness and deficits in self-control or self-regulation (Caine & Hatton, 1998).

It is generally understood that social support is a key contributor to health and well-being. Individuals with intellectual disabilities are exposed to fewer positive relationships than those of the non-disabled population and receive less support from family and friends and more from professionals (Lunsky & Benson, 2001). Since social support is a key contributor to health and well-being, and restrictions prevent these individuals from developing positive traditional relationships, this may lead to social strain and future depressive and somatic symptoms. Consequently, it is proposed that increasing social skills may decrease the occurrence of negative support, and lead to more positive relationships and a decrease in social strain and depression (Lunsky & Benson, 2001).

Self-Esteem

Individuals with intellectual disabilities may have grown up in a restrictive environment with few expectations, making it difficult to develop a healthy self-esteem. They may have received messages informing them that they are not 'good enough', and may often have their needs and individuality ignored (Moss, 1998; Sternfert Kroese, 1998). A study on job satisfaction and psychological well-being found that those with intellectual disability had lower psychological well-being compared to the non-disabled population, whether employed or unemployed (Jiranek & Kirby, 1990). Individuals with intellectual disability were more lonely, felt that they had less control over events and spent more time unoccupied than those in the normal population. If employed, their self-esteem was significantly higher than those unemployed, but remained lower than those in the non-disabled population. Even though individuals may find that finding employment is satisfactory, they still have difficulty making new friends and learning new skills (Jiranek & Kirby, 1990).

Individuals with intellectual disabilities have a restricted range of roles available to them. There are fewer social and vocational activities they are invited to participate in, or able to participate in. Low expectations of their ability lead to restricted opportunities, and less opportunity to develop a positive self-esteem (Dagnan & Sandhu, 1999). In social and work situations, individuals with intellectual disability compare themselves to others and feel inadequate. They may feel uncomfortable and left out (Dagnan & Sandhu, 1999). The non-

disabled population, too, may have negative attitudes towards disability and make that person's adjustment to society more difficult. All of this has adverse effects on self-esteem (Pertrovski & Gleeson, 1997).

The present study was designed to measure whether social problem-solving training can improve behaviour in adults with mild intellectual disability, and in addition, whether it can decrease psychological distress (anxiety, depression and low self-esteem) in adults with intellectual disability.

Behaviour control vs. Psychological therapy

Socially inappropriate expression of anger is common in individuals with intellectual disabilities (Benson, Rice, & Miranti, 1986; Black, Cullen, & Novaco, 1997). The lack of opportunities to learn how to cope with stress and few treatment plans teaching clients to manage their anger, lead to challenging behaviour. Many individuals have difficulties with recognising, regulating and expressing emotion, and this may mean that their needs may be disregarded, leading to frustration, anger and challenging behaviour (Black et al., 1997; Nezu et al., 1991). In addition, maladaptive social behaviour in people with intellectual disabilities has been related to poor problem solving abilities and anxiety (D'Zurilla, 1988; Marx, 1988; Ranzon, 2001). Two of the aims of the present study are to examine whether problem-solving skills training can decrease maladaptive behaviour and anxiety in adults with intellectual disability.

The frequent presentation of maladaptive behaviour in individuals with mild intellectual disability often means that psychological disorders are often treated with focus on behaviour rather than emotions (Caine & Hatton, 1998). Therapists may be reluctant to engage in psychological therapy with these individuals, an attitude derived from early Freudian literature, where it was proposed that psychoanalysis was not suitable for those who are poorly educated and who do not have a good character (Sternfert Kroese, 1998). In addition, communication difficulties mean that carers often ignore clients self-report on their psychological state and concentrate on observable symptoms (Caine & Hatton, 1998;

Sternfert Kroese, 1998). These communication problems mean that despite improved service developments, people with intellectual disabilities are still largely passive recipients rather than active consumers of support services (Sternfert Kroese, 1998). The majority of individuals with severe challenging behaviour and a psychiatric disorder established in childhood, receive no specialist mental care once they reach adulthood (McCarthy & Boyd, 2002). McCarthy and Boyd (2002) concluded that this could be a result of change from specialist care to community support care, insufficient numbers of trained professionals, weak links between primary health services and mental health, and no clear direction as to who should be providing services for this population.

In conclusion, the literature suggests that individuals with intellectual disability suffer more from psychological disorders than currently diagnosed. Presenting symptoms may differ from the normal population and caregivers may mistakenly focus more on behavioural problems than psychological distress. Through the process of problem-solving skills training, the present study aims to assist individuals to identify the emotions and cognitive processes, driving their behaviour and their levels of psychological distress (i.e., anxiety, depression and low self-esteem).

The use of self-reports in assessment

Individuals with intellectual disability have problems with communication and understanding, leading to complications with the use of questionnaires as a means of assessment. They may be unable to comprehend a question or express an answer clearly. It is recommended that before an emotional state can be accurately reported, individuals must be able to distinguish between different emotions (Finlay & Lyons, 2001; Reed, 1997). If questionnaires are used which have been designed for the non-disabled population, the psychometric properties may not be applicable to those with intellectual disability. For example, within the Beck Depression Inventory (Beck, Steer & Garbin, 1988), the item "I do not enjoy sex anymore" may not be suitable for many individuals with intellectual disability, as they may have never had sexual relations. In addition, some phrases may be difficult to understand. For example, in the Zung self-rating anxiety scale, the item "Do you feel more nervous and anxious than usual?" may be easier to understand if it is

reworded to “Do you feel more jumpy and shaky than usual, and does your tummy feel nervous and upset?” (Lindsay & Michie, 1988). Likert type scales, commonly used in self-reports, may also be inappropriate. Too many gradation levels may be too difficult for an individual with intellectual disability to distinguish. Individuals with intellectual disability tend to answer in the affirmative, and if a question is difficult to understand it may lead to an acquiescence response set. That is, they tend to answer yes rather than no, when unable to understand the question. As a solution to these assessment issues, it is suggested that questions need to be reworked so that they are short and simple to understand (Reed, 1997). This has led to the development of new and adapted self-report questionnaires, of which for many, the psychometric properties have not yet been established.

In the past self-reports have generally had limited use with individuals with intellectual disability, because of the concern that factors such as social desirability, memory, recency effects and anxiety could threaten their validity (Finlay & Lyons, 2001; Sternfert Kroese, 1998). It has been demonstrated, however, that some of these problems can be overcome by adapting small aspects of the self-report, such as introducing pictorial aspects, using open-ended questions, and inserting probes and examples (Sternfert Kroese, 1998). It is recommended that self-reports for this population should have clear and simple vocabulary, and complex questioning should be avoided (Finlay & Lyons, 2001; Lindsay & Michie, 1988). During assessment, the interviewer may need to check that the question is understood, and that plenty of time is allowed for this. Missing answers should be allowed for, and ‘don’t know’ options accepted (Finlay & Lyons, 2001).

A study examining relationships between self-reports, clinical interviews and ratings by significant others demonstrated low levels of convergence between the different assessment methods (Bramston & Fogarty, 2000). The study proposes that from a clinician and significant others’ point of view, differences may be due to different perspectives of respondents, difficulty in perceiving emotions in another, and the inclination to report more pathology in another. From an individual with an intellectual disability’s point of view, there may be a fear of honestly reporting symptoms for which they have previously

received criticism or punishment, and because of their condition, masking or diagnostic overshadowing may hide symptoms of emotional disorders.

The Bramson and Fogarty (2000) study further warned of the danger of attaching too much significance to ratings obtained from one source, and suggests that self-reports are best able to discriminate between overlapping but distinct emotional states. Furthermore, they favour the use of self-report instruments designed to be relevant to the population. Self-reports can be valid and reliable in people with intellectual disability if questions are modified slightly (Benson & Ivins, 1992; Lindsay et al., 1994). It is suggested that future research should continue to use self-report measures, particularly with participants with mild intellectual disability (Petrovski & Gleeson, 1997).

In conclusion, communication and understanding may lead to difficulties with assessing psychological distress in individuals with intellectual disability. General principles for sound clinical assessment recommend that tests are valid for the population and contain appropriate wording for the individual being tested (Bisconer & Suttie, 1998). Previous studies have demonstrated that applying these principles to the adaptation of self-report measures can lead to valid and reliable self-report (Benson & Ivins, 1992; Lindsay et al., 1994). The present study will use self-reports adapted in format and wording for individuals with intellectual disability.

CHAPTER 2: TREATMENT OF PSYCHOLOGICAL DISTRESS

This chapter describes three main methods of treatment of psychological distress for individuals with intellectual disability. These include psychopharmacy, behavioural therapy and cognitive-behavioural therapy. The chapter concludes with a discussion concerning the suitability and preparation of individuals with mild intellectual disability for engagement in cognitive-behavioural therapy.

Psychopharmacy

The treatment of individuals with intellectual disability and mental illness has traditionally been neglected, and has led to the over-use of medication for control of behaviour (Molony, 1993; Nezu et al., 1992). Nevertheless, there are few studies that demonstrate the effectiveness of medication for individuals with intellectual disability and mental health problems, and no evidence of randomised controlled studies (Hatton, 2002). Individuals with intellectual disability take more medication than the non-disabled population (Nezu et al., 1992). Some studies suggest that an inappropriate drug is often prescribed, with poor monitoring of effects and efficacy (Caine & Hatton, 1998; Molony, 1993; Nezu et al., 1992). Even so, medication is the most popular method of treatment for mental illness within this population, and of these the most common are anti-psychotics and anti-epileptics (Caine & Hatton, 1998).

Often these drugs are prescribed without a psychiatric diagnosis, or without a relationship to the current diagnosis, and are used primarily for the control of challenging behaviour (Foxy, 2003; Nezu et al, 1992; Webb, 1996). A survey of 677 intellectually disabled residents within IHC¹ New Zealand Inc, found that 48 percent of these residents were prescribed psychiatric or neurological medications, despite the indication that only 19 percent would have a psychiatric disorder (Webb, 1996). In addition, there is a lack of

¹ IHC: New Zealand community-based service provider to people who have intellectual disabilities

controlled clinical trials to provide evidence for the use of specific drugs, which means that medication is chosen to treat behaviour resembling a recognised condition within the non-disabled population, or to treat a specific symptom rather than a syndrome (Crabbe, 1994; Einfeld, 1997). A further complication with the prescribing of drugs is the problem that individuals with intellectual disability are less likely to identify or report side-effects (Caine & Hatton, 1998).

In summary, although not a comprehensive literature review, the studies described above, all demonstrate the lack of evidence for the effectiveness of medication in treating individuals with intellectual disability and mental health problems, notwithstanding the fact that individuals with intellectual disability are more heavily medicated than the non-disabled population. Other treatments, such as behaviour therapy and cognitive behavioural therapy, have been used as an addition or as an alternative to medication.

Behavioural Therapy

Behavioural therapies have been successfully applied to this population and have been effective in reducing maladaptive behaviour (Evans & Berryman, 1998). Evidence of their efficacy, however, have on the whole, been restricted to small sample studies, or single case studies (Hatton, 2002). Although behavioural therapy has particularly been used for the treatment of challenging behaviours, little focus has been given to its use in the treatment of mental health problems with the intellectually disabled population (Caine & Hatton, 1998).

Some individual case studies and small sample studies have shown that relaxation techniques can be effective in reducing anxiety and disruptive or agitated behaviour for individuals with mild, moderate and severe intellectual disability (Hatton, 2002; Lindsay & Baty, 1989; Reese, Sherman, & Sheldon, 1998; Rickard, Thrasher, & Elkins, 1984). One study in which 30 participants were assigned to either an experimental group receiving behavioural relaxation therapy or a placebo group, found that participants in the experimental group showed a reduced level of anxiety and improved cognitive performance

(Morrison & Lindsay, 1997). In addition, respondent learning and contingency management approaches have been used to manage and reduce maladaptive behaviour (Nezu et al., 1992).

Respondent learning approaches include systematic desensitisation and exposure-based approaches. Systematic desensitisation weakens anxiety responses (or phobias) by pairing these responses with substitute responses that are incompatible with anxiety (e.g., muscle relaxation). A review of systematic desensitisation has shown that it has been effective in treating the general population for anxiety or phobias (Nezu et al., 1992). Studies with small sample size, and single case studies have demonstrated the effectiveness of progressive muscle relaxation and systematic desensitisation in the treatment of phobias at post-treatment and at follow-up, in individuals with intellectual disability (Erfanian & Miltenberger, 1990; Schloss, Smith, Santora, & Bryant, 1989).

Exposure-based approaches cause anxiety to decrease through frequent and repeated exposure to the anxiety provoking response, allowing extinction to occur. A review of this approach has shown that it has been effective in treating the non-disabled population for simple phobias, obsessive-compulsive disorder and agoraphobia, and that it has been able to reduce anger responses in an individual with intellectual disability (Nezu et al., 1992). In a small multiple single-case study, two intellectually disabled participants with dog phobia showed improvement after anxiety management and exposure treatments (Lindsay, Michie, Baty, & McKenzie, 1988).

Contingency management techniques include positive reinforcement, negative reinforcement and punishment (Nezu et al., 1992). A review of positive and negative reinforcement approaches has shown that they have been popular and valuable in managing challenging behaviours within this population (Nezu et al., 1992), although evidence of this has been restricted to single case studies (Luiselli, Sperry & Connolly, 2002) and small sample studies (Lalli et al., 1999; Maguire, Lange, Scherling, & Grow, 1996; van Camp, Lerman, Kelley, Contrucci, & Vorndran, 2000). Positive reinforcement works by providing positive feedback to targeted responses, leading to the increased presentation of the

targeted response and an increase in adaptive behaviour with a corresponding decrease in maladaptive behaviour. Small single-case studies have demonstrated that positive reinforcement can improve challenging behaviour (Luiselli et al., 2002; Reese et al., 1998), but reviews of this method have shown that it can be ineffective if behavioural assessment is inadequate (Evans & Berryman, 1998; Nezu et al., 1992). If the response chosen for reinforcement does not have any significance for the individual, it may result in an unsuccessful attempt at behaviour modification (Evans & Berryman, 1998).

Punishment procedures are based on the removal of a reinforcer or on aversive consequences, and have been successful in managing severely challenging behaviour such as aggression towards others and life threatening self-abuse (Emerson, 1998; Foxx, 2003; Kimmel, 1997; Nezu et al., 1992; Thompson, Iwata, Conners, & Roscoe, 1999). Reviews have shown, however, that they are limited because they restrict the individual's freedom, involve ethical and professional concerns (Nezu et al. 1992), and have shown little generalisation from one setting to another (Benson, 1994).

Although behavioural techniques have been the treatment of choice for individuals with intellectual disability, they are used primarily for the management of challenging behaviour and have shown limited generalization. The success of behavioural techniques depends on the provision of treatment throughout the day and night, in all settings, as well as the competence of staff in the administration of behavioural strategies (Evans & Berryman, 1998; Foxx, 2003). With the movement of intellectually disabled individuals into the community and away from institutions, the successful administration of behavioural treatments has become more difficult and less popular (Evans & Berryman, 1998). In addition, behavioural treatments focus more on challenging behaviour and less on the treatment of mental health problems for individuals with intellectual disability (Caine & Hatton, 1998). The combination of behavioural techniques with cognitive therapy has shown some evidence of its effectiveness for the treatment of mental health problems, and improved generalisation across situations and contexts for this population (Hatton, 2002).

Cognitive Behavioural Therapy

Cognitive-behavioural therapy rests on the assumption that psychological problems may be caused by cognitive dysfunction, and that by teaching new and adaptive ways of thinking; the clients' psychological well-being can be improved (Beck, 1980). This model hypothesizes that an individual's feelings and behaviours are influenced by the way they understand and interpret situation and events. External life events activate an individual's maladaptive schema, during which negative thoughts appear automatically and are accepted as true (Persons, Davidson, & Tompkins, 2001). These negative thoughts activate negative mood and maladaptive behaviour. Cognitive therapy aims to change cognition (thoughts) and behaviour in order to improve mood and modify maladaptive schemas. Sessions follow a structured format where treatment begins with behavioural interventions, then moves to changing automatic thoughts and finishes off with modifying schema. A case formulation, serving as an individualised treatment plan, guides the therapy process (Beck, 1995; Persons et al., 2001). The therapist uses this model to assess the client's problem on two levels, either at a level of 'overt difficulties' or as 'underlying psychological mechanisms'. This creates a problem list from which a hypothesis can be developed to guide treatment (Persons, 1989). Alternatively, these two levels could be described as peripheral or core cognitive processes. Durable therapeutic change results from the modification of these central or core beliefs, whereas modification of peripheral beliefs may result in temporary improvement, but not in durable change (Safran, Vallis, Segal, & Shaw, 1998). Therapy sessions are carefully structured to facilitate the teaching of skills to reach the goals of treatment, of which an essential part is the setting and review of homework (Persons et al., 2001).

Homework forms an essential role within cognitive behavioural therapy. It allows the client to work on real-life and meaningful problems occurring between sessions and as they arise. Homework allows the client to practice new skills, views, behaviours and plans and reinforces the idea that recovery is dependent on the individual's efforts rather than those of the therapist (Persons, 1989). A review examining the empirical basis of the use of homework has demonstrated that therapists who use homework assignments and who

observe client compliance with homework observe better treatment outcomes (Kazantzis & Lampropoulos, 2002b).

There is growing evidence that cognitive-behavioural treatments can be modified and applied to people with intellectual disability, although as in behavioural therapy, this has been limited to single or multiple case studies and a few small controlled studies. Several case studies and case series have illustrated how cognitive techniques can successfully treat depression (Lindsay, Howells, & Pitcaithly, 1993; Reed, 1997), anger (Black et al., 1997), self-regulation and self-control (Williams & Jones, 1997), and anxiety (Lindsay et al., 1997) in individuals with intellectual disability.

Case studies have shown that cognitive treatment has been successful in treating depression and anxiety in people with intellectual disability (Lindsay et al., 1993; Lindsay, et al., 1997; Reed, 1997). It does appear that anxiety may differ in function, process and presentation (to that of the non-disabled population), although this needs to be verified with further research (Lindsay et al., 1997) Further investigation of the efficacy of cognitive treatment for anxiety and depression, for this population, needs to be shown in controlled clinical trials (Reed, 1997).

The treatment of anger using cognitive behavioural therapy has been demonstrated in two small controlled studies. Taylor, Novaco, Gillmer, and Thorne (2002) compared a trained group ($n = 9$) with a routine care waiting list control group ($n = 10$), and Willner, Jones, Tams, and Green (2002) in a small randomised controlled trial, compared a treatment group ($n = 7$) with a waiting list control group ($n = 7$). Both studies provided evidence of the effectiveness of cognitive-behavioural anger management for individuals with intellectual disability. Loumidis and Hill (1997a) provided social problem-solving skills training to a trained group ($n = 27$) and compared it with an untrained group ($n = 17$), showing effectiveness in improvement of maladaptive behaviour and problem solving skills.

There are some issues and clinical considerations that need to be taken into account when using cognitive-behavioural therapy with individuals with mild intellectual disability. Developing the therapeutic relationship may take longer than with the non-disabled population, and may require a more active role from the therapist (Caine & Hatton, 1998; Hurley, 1989; Sternfert Kroese, 1997; Sternfert Kroese, 1998). Many individuals with intellectual disability have experienced rejection in their past and may need more time to develop trust in a relationship. Boundaries between the therapist and client may need more consideration, especially as these individuals experience stronger transference reactions than the non-disabled population (Caine & Hatton, 1998; Hurley, 1989; Menolascino, Gilson, & Levitas, 1986). They may see the therapist as a close friend or romantic partner. This is particularly valid for individuals who have had primary relationships with community support workers rather than friends and family members.

Issues regarding the adaptability of cognitive-behaviour therapy for individuals with intellectual disability also need to be considered. As previously discussed, there are questions whether this client group can report on their own cognitions in a valid and reliable manner, although this can be overcome with the use of self-reports specifically adapted for individuals with intellectual disability. Two further issues are raised and discussed by Sternfert Kroese (1997). The author raises questions concerning deficits in comprehension and expression of abstract concepts, and deficits in self-regulation for this population.

Therapists need to be aware of their clients understanding of emotions and humour comprehension (Sternfert Kroese, 1997). Individuals with intellectual disability may have difficulty with recognizing and expressing basic emotions (such as 'happy' and 'sad'), and may have confused conceptualisations of death and dreams (Reed, 1997; Sternfert Kroese, 1997). These individuals are often excluded from discussions regarding significant life events (such as the death of a loved one), and the resulting confused emotional reactions are often treated with medication or behavioural modification. They may have been subjected to ridicule or abusive humour in the past, leading to an aversion and negative emotional reaction to any humorous interaction. Assessing and teaching an understanding

of emotions can enable an individual to deal with such constructs such as death, dreams, humour and basic emotions such as happiness, sadness, anger, irritability, frustration etc. (Sternfert Kroese, 1997; Sternfert Kroese, 1998).

Those with intellectual disability have problems with generalising acquired skills to new situations and discriminating between appropriate and inappropriate situations when using these acquired skills (Sternfert Kroese, 1998). They often come from an unstimulating environment with low expectations, with little encouragement towards setting personal goals, this leading to motivational disorders. In addition, negative life experiences, such as stigmatisation, unemployment, and lack of friendships, may lead to little trust in their own ability and dependency (Caine & Hatton, 1998). The client may present with a more passive attitude, and a mismatch may occur between the active role expected in cognitive-behaviour therapy and the traditional view that those with intellectual disabilities are passive and unable to make decisions (Sternfert Kroese, 1998). Despite these difficulties there is evidence that suggests that individuals with intellectual disability are able to self regulate behaviour (Nezu et al., 1991). A review of published case reports have shown that these individuals can self-monitor their own self-injurious behaviour, and can use self-management packages to reduce stereotyped behaviour, such as nose gouging and head shaking (Jones, Miller, Williams, & Goldthorp, 1997). Similarly cognitive behavioural approaches such as self-instructional training have been successful in teaching individuals to learn basic housekeeping skills, social interaction skills, and vocational skills (Williams & Jones, 1997).

Individuals with intellectual disability may be living in an environment lacking in stimulation with low expectations from carers. A client coming from such a background may find it difficult to adapt to a climate in therapy encouraging self-regulation. Sternfert Kroese (1997) suggests that before cognitive behavioural therapy is offered to individuals with intellectual disability, the living conditions of these clients needs to be assessed for a climate promoting self-regulation, in which clients are involved in making their own decisions and choices.

Self regulation can be encouraged and nurtured through a collaborative relationship between therapist and client. A small controlled study ($N = 19$) illustrated that detained offenders with intellectual disabilities were able to benefit from cognitive-behavioural anger treatment (Taylor et al., 2002). The authors found that despite traumatic life histories and repeated experiences of rejection and failure in these individuals, they still able to form and maintain a therapeutic collaborative relationship and benefit from the treatment.

Preparation for treatment

Clinicians recommend that individuals with intellectual disability are assessed for suitability in communication skills, cognitive aptitude, capacity to identify emotions and the capacity to understand the cognitive-behavioural model, before engagement in cognitive-behavioural therapy (Black et al., 1997; Clare & Murphy, 1998; Dagnan & Chadwick, 1997; Hatton, 2002). A study examining the effectiveness of cognitive-behavioural anger treatment for individuals with mild intellectual disability, has suggested that in order to maximise positive treatment outcome the following factors need to be considered (Black et al., 1997). Individuals should have adequate communication skills, a cognitive aptitude (the ability to understand gradation, to record events, and have adequate short-term memory, attention and concentration), the ability to recognise and label emotions in one-self and others, and some social interaction skills. Cognitive behavioural therapy may not be successful for those with little or no language skills, and in order to be sure that individuals can benefit from it, an assessment should be done to establish whether these individuals have the ability to complete the minimal tasks necessary for therapy. Overall these individuals need a minimal level of verbal ability enabling them to respond to questions linking antecedents, beliefs and consequences, to engage in the testing of a belief, and to measure change in the intensity of beliefs and emotions (Dagnan & Chadwick, 1997). Therapists assume that difficulties in comprehension, assimilation and recall allow for limited effectiveness of cognitive treatments. An alternative view is that the limited effectiveness of cognitive treatments for this population could be due to therapists' belief that the type of therapy is too difficult for the clients, and therapists therefore provide little effort to adapting the procedure to the client (Taylor et al., 2002).

Preliminary research has shown that cognitive behavioural interventions can be successful if clients are assessed for suitability for the treatment, if self-reports are adapted for the population, if the client is given preparatory training on how to recognise and express emotions, and if the therapist is able to adapt the procedure to suit the client (Taylor et al., 2002; Sternfert Kroese, 1998). The present study will be using social problem-solving training, a cognitive behavioural intervention specifically adapted for individuals with mild intellectual disability. This intervention uses behavioural interventions such as positive reinforcement, relaxation techniques, modelling and role-plays. Cognitive interventions include facilitating individuals to understand the link between antecedents, emotions and behavioural consequences, the generation of solutions to problems, and decision making. Assessment will cover different domains of functioning such as adaptive and maladaptive behaviour, social problem-solving skills and psychological distress. Self-reports, which have been adapted for the population, will be used to assess psychological distress. All of the above will be discussed in more detail in the chapter to follow.

CHAPTER 3: SOCIAL PROBLEM-SOLVING SKILLS TRAINING (SPSST)

This chapter outlines the history and development of social problem-solving training, and provides a brief description of the cognitive-behavioural process underlying social problem-solving training. The chapter concludes with a summary of the empirical support of social problem-solving training for the treatment of the relevant constructs examined within the present study (i.e., anxiety, depression, self-esteem and maladaptive behaviour).

History

In the 1960's, behaviour modification became very popular for its ability to improve performance and behaviour (D'Zurilla & Nezu, 1999). Of the many methods used, contingency management and social skills training showed the most positive treatment outcome (Cassileth, 1968; Gomes-Schwartz, 1979; Gross & Brigham, 1980; Ullman & Krasner, 1969). Social-skills training uses contingency management procedures such as positive reinforcement and shaping, as well as modelling and role-play. Although effective, their use is limited to specific training situations, with limited generalisation to other situations (Evans & Berryman, 1998; Foxx, 2003). Gradually, more emphasis was given to the cognitive processes behind self-control and behaviour change, and cognitive activities were eventually included within the social skills training framework (D'Zurilla & Nezu, 1999). These cognitive processes include the changing of an individual's response set when confronted with a problematic situation from negative affect to positive affect, the acquisition of causal thinking, consequential thinking, alternative thinking, means-end thinking and perspective taking (i.e., ability to understand another person's perspective) (D'Zurilla & Nezu, 1999). Richard Lazarus's relational model of stress was integrated within social problem-solving theory and led to the theoretical rationale for the use of problem-solving training as a general coping strategy to control the relations between stressful life events and emotional stress responses, such as anxiety, depression, anger and disappointment (D'Zurilla & Nezu, 1999; Lazarus & Folkman, 1984).

Problem-solving

Problem solving is defined as “the self-directed cognitive-behavioral process by which a person attempts to identify or discover effective or adaptive solutions for specific problems encountered in everyday living.” (D’Zurilla & Nezu, 1999, p.10). According to the theory, a cognitive-behavioural process incorporates activities focussing on specific thoughts and underlying beliefs, as well as complex processes such as information processing and problem solving (Beck, 1970; D’Zurilla & Nezu, 1999). Abnormal behaviour could be alternatively viewed as ineffective behaviour in which an individual is unable to resolve a problem, resulting in anxiety, depression and other problems (D’Zurilla & Goldfried, 1971). Ineffective problem solving may have personal and social consequences, causing emotional or behavioural disorders and requiring psychological treatment. A person is prone to behave ineffectively in certain problematic situations (e.g., missing a train to work, repeated demands from another, continual feelings of loneliness) because they have insufficient skills to deal with such situations. Problem-solving helps an individual develop a learning set, and the ability to generalize. This has the function of allowing the client to become his own therapist (D’Zurilla & Goldfried, 1971).

Social problem-solving training

Social problem-solving training was developed by D’Zurilla and Goldfried in 1971 and has been applied to clinical and non-clinical populations. It has been effective for the treatment of a variety of disorders ranging from minor to severe psychopathology (D’Zurilla & Nezu, 1999; Nezu et al., 1991). It can be applied to many situations, and can improve skills for coping with future problems (Loumidis & Hill, 1997a). D’Zurilla and Goldfried (1971) divided the problem-solving process into five stages as a means of organizing problem-solving procedures for the purpose of study or training (Table 1).

Table 1

Stages of problem-solving process (D'Zurilla & Goldfried, 1971)

General orientation	<p>The way the individual responds to the situation:</p> <p>Accepting that problems are normal</p> <p>Accepting that they can cope with most problems effectively</p> <p>Recognising problems when they occur</p> <p>Inhibiting the tendency to respond on first impulse or do nothing</p>
Problem definition and formulation	<p>Defining the problem in operational terms</p> <p>Sort elements of the problem into relevant and irrelevant information</p> <p>Identifying primary goals and specifying major issues</p>
Generation of alternatives	<p>Choosing appropriate alternatives in order to maximise the likelihood of finding an appropriate response</p>
Decision making	<p>Choosing the most appropriate course of action</p>
Verification	<p>Assessing the actual outcome and making self-correction where necessary</p>

Empirical support

Outcome studies for the efficacy of social problem solving training have ranged from hospitalised psychiatric patients, to individuals from the general population who are interested in improving their general problem-solving ability. Overall, social problem-solving training has shown efficacy as a clinical intervention strategy for a variety of different mental health, substance abuse and health problems. Maintenance effects have been particularly strong with depression and weight-control problems, although results

have shown its usefulness in reducing stress in vulnerable or at-risk groups (D’Zurilla & Nezu, 1999). An outline of the empirical support for the relevant constructs, anxiety, depression, self-esteem and maladaptive behaviour, within this study will be discussed below.

Anxiety

Research has shown that social problem-solving can be effective in treating agoraphobia, social anxiety and generalised anxiety disorder. In a controlled study of 28 agoraphobic patients, problem-solving therapy was compared with graded-exposure (Jannoun, Munby, Catalan, & Gelder, 1980). Both treatments showed a decrease in anxiety, although the problem-solving group improved at a more rapid rate. A further study, in which 79 adults with social anxiety were randomly assigned to the different treatment conditions, or a wait-list control group (D’Guiseppe, Simon, McGowan, & Gardner, 1990), indicated that problem-solving therapy was equally effective when compared to rational-emotive therapy, cognitive therapy, and self-instructional training. When the relationship between problem-solving and problem orientation in Generalized Anxiety Disorder (GAD) was studied, Ladouceur, Blais, Freeston, and Dugas (1998) found that poor problem orientation may be related to non-clinical high worriers and clinical GAD individuals. Although these individuals were able to show positive problem-solving ability, they had poor problem-solving confidence and often failed in implementing the solutions to their problems. They reacted to problems as threats rather than challenges, this interfering with their ability to apply their problem-solving skills. Other studies have supported these findings (Dutton, 2002; Szabo & Lavibond, 2002). As a follow up to the Dugas et al. (1998) study, a controlled study in which problem-solving was a major component in the treatment of GAD, showed that the treatment group ($n = 52$), relative to the wait-list group, showed greater improvement on GAD symptoms at post-test and at 2-year follow-up (Dugas et al., 2003). Although there is some evidence that social problem-solving training can be effective in treating anxiety, there is stronger evidence of the efficacy of social problem-solving training in the treatment of depression (D’Zurilla & Nezu, 1999).

Depression

The application of problem solving training has demonstrated significant clinical improvement with depression, and suggests that deficits in social problem solving may be a core feature of depression (Nezu, Nezu, & Perri, 1989; Watkins & Baracaia, 2002). A controlled study examining the relationship between rumination and social problem-solving in depression, found that clinically depressed individuals were significantly impaired at problem solving (Watkins & Baracaia, 2002). They rated themselves as more ineffective at problem solving, and showed problem solving deficits on measures. Taken together, these results suggest that rumination impairs the ability to solve problems, and can exacerbate negative mood. Major symptoms of depression such as social withdrawal and isolation may encourage the depressed individual to preoccupy themselves with thinking about their mood and problems, rather than with active orientated problem solving (Watkins & Baracaia, 2002). In a study in which 91 adults with major depression were randomly assigned to six or seven sessions of problem-solving therapy, an antidepressant medication (amitriptyline) regime and a drug placebo, results indicated that problem-solving training is as effective as antidepressants and significantly more effective than a placebo (Mynors-Wallis, Gath, Lloyd-Thomas, & Tomlinson, 1995). However, a study by Schmalzing, Dimidjian, Katon and Sullivan (2002) was unable to support this theory. In this study, clinically depressed patients were randomly assigned to problem-solving therapy, a paroxetine medication group, or a placebo group. Problem-solving therapy was no more effective than the medication or placebo group in reducing rumination or depression. Therapy was limited to six sessions, however, and it was concluded that increasing therapy to 12 – 20 sessions might be more effective. Further research has extended the evaluation of problem-solving therapy to depressed older adults.

In one particular study, 75 depressed older adults were randomly assigned to a social problem-solving group, a reminiscence therapy group, and a waiting-list control group (Arean et al., 1993). Those who received problem-solving therapy reported significantly less depressive symptoms, and at post-treatment showed that depression was classified improved or in remission. There was also significant improvement in four of the five component skills of problem solving, suggesting that depressed older adults have deficits in

social problem-solving ability. Other studies have supported these results (Lopez & Mermelstein, 1995; Teri, Logsdon, Uomoto, & McCurry, 1997).

A large study administered questionnaires on social problem-solving, hopelessness, depression and suicidal risk to three different samples, i.e., 283 undergraduate psychology students, 100 general psychiatric patients from a private psychiatric hospital, and 61 suicidal psychiatric patients. The results provide support for the relationship between deficits in problem solving and suicidal risk in depressed adults, suggesting that suicide-prone individuals see problems as a threat, and tend to avoid them. The avoidance behaviour may increase the severity of hopelessness and suicidal intent. Women also report more negative problem orientations than men, and more avoidance behaviour, although these factors may have little influence on suicidal risk in women. The study points to the possibility that these results may simply be a reflection that women are willing to report more negative problem-solving than men (D'Zurilla, Chang, Nottingham, & Faccini, 1998).

In summary, studies have shown that there is a relationship between depression and deficits in social problem-solving skills, as well as suicide risk in depressed adults. It is not clear, however, whether social problem-solving skills is specifically related to rumination in depression. When problem-solving training is compared with other treatments, medication and placebo groups, it shows equal effectiveness or is more effective (Arean et al., 1993; Mynors-Wallis et al., 1995; Schmaling, 2002).

Self-esteem

D'Zurilla and Nezu (1999) believe that social problem-solving is likely to have a direct and indirect link to positive psychological well-being. There is a direct link between positive problem orientation and perceived control, optimism and positive affectivity (Chang & D'Zurilla, 1996; D'Zurilla & Nezu, 1990; Elliott, Herrick, MacHair, & Harkins, 1994). The indirect link describes effective social problem-solving as leading to adaptive coping and competence, and leading in turn to positive psychological conditions, such as improved self-esteem (D'Zurilla, Chang, & Sanna, 2003; McCabe, Blankstein, & Mills, 1999). A study in which 205 college students completed measures on social problem-solving ability,

aggression and self-esteem, found that self-esteem and social problem-solving ability were significantly correlated. In addition, poor problem-solving ability was a significant predictor of aggression (D’Zurilla et al., 2003). This preliminary data provides evidence to suggest that future interventions should focus both on improving self-esteem and on improving social problem-solving skills, possibly leading to a reduction in aggression, violence and maladaptive behaviour.

Maladaptive Behaviour

Mc Murrin, Blair, and Egan (2002) investigated the relationship between impulsiveness, aggression, social problem-solving and alcohol use in males. The authors found that high levels of impulsivity lead to poor social problem-solving, which in turn leads to aggression (in particular drunken aggression). Only the relationship between social problem-solving and aggression was significant, which raises the possibility that teaching social problem-solving skills may reduce aggression. A further study using a sample of 205 college students has confirmed that poor problem-solving ability is related to aggression (D’Zurilla et al., 2003).

A social problem-solving intervention was applied to a small sample of personality-disordered offenders (McMurrin, Fyffe, McCarthy, Duggan, & Latham, 2001). The results indicated that there was significant improvement in problem-solving with change maintained at 15 months. Unfortunately, the study was limited by its small sample size, lack of control or comparison group, and no measurement of actual behaviour change.

Although studies have indicated a link between aggression, self-esteem and social problem-solving ability, and there is some preliminary support that social problem-solving training can improve maladaptive behaviour and low self-esteem, studies have not yet established this.

Conclusions

This chapter describes the efficacy of problem-solving training for the treatment of anxiety and depression within the adult population. In addition, studies have indicated a relationship between problem-solving skill, self-esteem and maladaptive behaviour, but require further controlled studies to measure the effectiveness of problem solving training in improving maladaptive behaviour and low self-esteem. Research demonstrating the efficacy of social problem-solving training within a population of intellectually disabled adults has been less substantive, with more focus on small studies rather than controlled trials. A review of studies examining the effectiveness of social problem-solving training for individuals with mild intellectual disability is included in Chapter four.

CHAPTER 4: PROBLEM-SOLVING AND INTELLECTUAL DISABILITY

Individuals with intellectual disabilities show difficulties with social and interpersonal problems preventing full integration into the community, and limiting their ability to achieve positive vocational, academic and social outcomes (Loumidis & Hill, 1997a; Wehmeyer & Kelchner, 1994). They often fail to evaluate the progress towards a goal and use a random, trial and error manner to deal with problems (Loumidis & Hill, 1997a). Aggressive people with mild intellectual disability tend to generate aggressive solutions to problems, and use this solution first (Clare & Murphy, 1998). Individuals with intellectual disability may use aggression to cope with frustration, anxiety and stress (Nezu et al., 1991). By helping people to inhibit their angry responses, and to practice alternative and more appropriate responses, social and interpersonal problems can be avoided (Clare & Murphy, 1998). Ineffective problem-solvers report more life problems, and more anxiety and depression (Loumidis & Hill, 1997a).

Early research on problem-solving for individuals with intellectual disability focused on non-social or impersonal situations. Research has shown that these individuals had a rigid approach to problem-solving and use few alternatives when looking for solutions. For example, a study examining the interpersonal cognitive problem-solving skills in 389 adults with intellectual disability, found that these individuals were also limited in their ability to solve social problems (Wehmeyer & Kelchner, 1994). In this study, those who were more effective problem-solvers were more confident in their social interactions and had a higher self-esteem than those less effective in problem-solving skills. Those who believed that they were more capable of doing things (i.e., greater self-efficacy) were able to generate more solutions to problems, and those who believed that they were able to achieve their desired goals, were more efficient in using problem-solving strategies. Overall, when compared to the norms of a non-disabled group, these individuals generated fewer solutions and more irrelevant solutions. Wehmeyer and Kelchner (1994) concluded that by improving the

social cognitive problem-solving of this population, there will be greater potential for these individuals to become self-determining and self-regulating.

A second study compared an aggressive group with a non-aggressive group from a sample of 46 adult males with mild intellectual disability, and found that aggressive individuals had more problem-solving deficits than non-aggressive individuals (Basquill, 1995). The aggressive group interpreted hostile intent and generated more aggressive responses as solutions, in non-hostile social problem situations. Similarly, in a study comparing social problem-solving skills of 27 intellectually disabled men with sexual aggression, and 10 intellectually disabled men with no history of sexual aggression, it was found that the sexually aggressive group were significantly more likely to make impulsive decisions than the non-sexually aggressive group (Chung, 2002). Taken together, these preliminary findings suggest that improving social problem-solving in individuals with intellectual disability could lead to greater potential for them to develop improved self-regulatory skills and improved self-esteem, as well as a less aggressive response to social problem situations.

SPSST and Intellectual Disability

Social problem-solving training (SPSST), in combination with social skills training, has been successful in improving ratings of personal-social responsibility of 33 adults with mild and moderate intellectual disability (Castles & Glass, 1986). The study showed limited generalisation effects, however, and treatment gains were restricted to trained role-play situations. The study suggests that future researchers should incorporate generalisation strategies into their training programmes. In a study which compared four conditions (problem solving, relaxation training, self-instruction, and a combined anger management condition) for the treatment of anger in mildly and moderately intellectually disabled, all four conditions showed equal effectiveness (Benson et al., 1986). A small controlled study ($N = 6$) demonstrated that those in an experimental problem-solving skills training condition, showed an improvement in problem-solving skills when given cues and when the cues were eliminated. This provided preliminary evidence of the generalisation of problem-solving skills training to new situations (Foxy, Kyle, Faw, & Bittle, 1989).

In a more extensive study, Nezu et al. (1991) randomly assigned 28 mildly intellectually disabled individuals to either a problem-solving – assertiveness training group ($n = 9$), an assertiveness – problem-solving training group ($n = 9$), and a wait-list control group ($n = 10$). All participants had a second diagnosis of anxiety, schizophrenia, adjustment, impulse control or personality disorder (i.e., dual diagnosis), and maladaptive social behaviour. Results at mid-phase and post treatment showed less psychological distress, higher levels of assertive behaviour and improved problem-solving abilities in the trained groups. Furthermore, the results indicated that problem-solving training impacts on both problem-solving and assertiveness, but assertiveness training impacts on assertiveness skills only. At 3-month follow-up these treatment gains were maintained. These results show that self-regulatory treatments can be useful with this population, and are significant as it is the only study assessing whether social problem-solving training can improve psychological distress in individuals with dual diagnosis (i.e., intellectual disability and a psychiatric diagnosis). However, the study is limited by the small sample size and by the fact that it assesses problem-solving training in combination with assertiveness training.

The examination of the efficacy of social problem-solving training for individuals with intellectual disability has been limited to small studies, and studied in combination with other training conditions. With the exception of Loumidis (1993), no studies have focussed on social problem-solving skills training as a separate treatment condition. Although the above studies have shown some support for the use of problem solving training for treating individuals with intellectual disability, the use of a training model developed for use with the non-disabled population produces some difficulties (as discussed in Chapter 2). As a result of these difficulties, Loumidis (1993) developed a social problem-solving model specifically for individuals with intellectual disability (based on the D’Zurilla & Goldfried model, 1971).

Loumidis (1993)

Loumidis (1993) adapted social problem-solving training to include components with a cognitive emphasis on behavioural and emotional adjustment. These components included the control of emotions, motivational boosters and thought control. There was a focus on

generalisation across situations during sessions and everyday life (Loumidis, 1993). This programme was evaluated on a sample of 46 adults with intellectual disabilities with a mean IQ of 57. Statistically significant improvements were found in the trained group ($n = 29$), over and above that of the control group ($n = 17$). Maladaptive behaviour and social problem-solving skill components such as solution effectiveness, number of relevant means to ends, and mean number of relevant pre-action thoughts, showed significant improvement. Loumidis and Hill (1997a) concluded that individuals with intellectual disabilities could benefit from social problem-solving training. More specifically social problem-solving training can lead to a decrease in maladaptive behaviour, an improvement in social adjustment, and the ability to live independently in the community. The treatment model included a five-stage view of the problem-solving process, which was used for planning and evaluating problem-solving training programmes for people with intellectual disabilities (Loumidis & Hill, 1997b). These five stages include problem recognition and definition, ends-directed thinking, instrumental or means-ended thinking, evaluative checking and decision-making, and solution implementation.

As part of conducting this research on the effectiveness of social problem-solving skills, Loumidis (1993) developed a new measure for assessing social problem-solving skills. Traditional measures were not recommended for this population or had been criticised for measuring outcome of training in terms of the number of alternative solutions only. The new measure used problem vignettes that reflected practical, personal and interpersonal problems relevant to individuals with mild intellectual disability. Questions were asked in relation to each vignette and provided a means to measure a number of components of social problem-solving skills (such as effectiveness and social acceptability), rather than limiting it to the number of alternative solutions. Similar vignettes were incorporated into the training protocol (see Appendix C).

Training content

The training content reflected the needs of individuals with intellectual disability. This involved increasing the training period to 15 sessions, adjusting the language to a level understood by the participants, more emphasis on effectiveness and social acceptability of

solutions to problems, and focus on generalisation of learned skills to new situations. A description of the structure used within each session follows and a summary is provided in Table 2.

Table 2

Common structure within sessions (Lourmidis, 1993)

1.	Conversation and counselling for emotional problems
2.	Review of previous session
3.	Review of homework
4.	Teaching the new component
5.	Exercise on problem vignettes
6.	Application on individual problems
7.	Assignment of homework
8.	Review of session
9.	Relaxation exercise

Each session begins with attention and counselling around current problems, to enable the easing of distracting emotional events so that the training can be attended to. Vital components from previous session are then recalled, to ensure that forgotten content is revised. If homework had been given, this is reviewed and given feedback. The new component is then explained, and the participant is encouraged to reword, repeat or give examples of each component. Role-play, modelling and positive reinforcement is used. Individual vignettes are then presented. These incorporate impersonal practical problems and interpersonal problems with different roles (authority, peers, strangers). Positive reinforcement and plenty of praise is given when clients attempt to solve the problems in the vignettes. In addition, there is individual practice of the client's own problems, which may be done in the initial counselling stage of the session. This individual practice allows for generalization from hypothetical problems to real life problems, and links the training to everyday life. Finally the session is reviewed and optional homework given, in which

participants are asked to apply the acquired problem-solving skills to real life. Relaxation exercises are introduced as a means of calming participants before leaving the session.

Components of training sessions

Each session is one hour long, the content of which is described below and summarised in Table 3.

Table 3

Treatment protocol for social problem-solving training (Laurinidis, 1993)

Session	Component
1	Introducing the aims, rules, process and rationale
2	Impulse control and motivational boost
3	Use of feelings as cues to problem solving
4	Problem identification
5	Emotional ABC: Antecedents and consequences
6	Problem definition
7	Realistic self advocacy
8	Definition of needs/goals
9	Generation of alternative solutions
10	Introduction to decision making
11	Decision making criteria: I: effectiveness
12	Decision making criteria: II: social acceptability
13	Decision making criteria: III: consequences
14	Consideration of means to ends and obstacles
15	Solution implementation and verification

Session 1. Introducing the aims, rules, process, and rationale. Short and long-term aims of training are clarified and a set of working rules is drafted. The words ‘problem’ and ‘solution’ are explained and participants are asked to provide an example from their own personal and interpersonal environment. An exercise on a hypothetical problem is carried out to improve generalisation (see Table 4 for examples of hypothetical problems).

Session 2. Impulse control and motivational boost. The relationship between problems, frustration and aggressive outbursts are discussed, and the importance of impulse control (stop and think) is emphasized. Examples of positive and adverse effects of impulse control are given. Participants are asked to repeat self-motivating statements such as “I can problem-solve”, and are invited to provide an example of successfully having done something about a problem. In addition an exercise on a hypothetical problem is done to improve generalisation.

Session 3. Feelings are used as cues to problem-solving. The concept that negative feelings are reactions to stressful or upsetting life situations and that they indicate that there is a problem, is discussed. Examples of life situations (positive and negative) are offered and participants are invited to offer their emotional reaction to that event. The session ends with practice on hypothetical problems.

Session 4. Problem identification. The aim of this session is to assist individuals to identify their problem by themselves. Participants are helped to identify problems with the following cues: negative feelings, inefficient behaviour, and social feedback. This is backed up by exercises on hypothetical problems followed by some real problems.

Session 5. Emotional ABC: antecedents and consequences. The following issues are discussed: negative feelings are related to problems and positive feelings are associated with mastery over one’s environment, impulse control helps prevent negative consequences, consideration of one’s own feelings and thoughts can aid problem identification, negative emotional feedback from other people can aid problem-solving. Participants are

encouraged to discover the source of negative emotions (e.g., "What made me sad?"). This is followed by an exercise on a hypothetical problem.

Session 6. Problem definition. Participants are encouraged to define a problem. Their attempts are assisted by asking who, what, where, when and why (e.g., "Why is your peer abusing you?"). Exercises on hypothetical problems are given. Participants are given positive feedback and praise while defining a problem.

Session 7. Realistic self-advocacy. A distinction is made between problems that realistically did or did not require external assistance. Participants are encouraged to judge whether change is realistically possible and whether they are able to manage a problem on their own. Examples of hypothetical problems are used to practice this new skill. Emphasis is placed on problems involving conflict with authority figures.

Session 8. Definition of needs or goals. Goals are explicitly defined and appraised. Complex problems are broken down into simpler sub-goals. Participants are encouraged to define the goal when presented with a hypothetical but personally relevant problem.

Session 9. Generation of alternative solutions. Participants are encouraged to generate at least three alternative solutions to hypothetical problems and link them to personal real problems.

Session 10. Introduction to decision-making. Clients encouraged to select the best solution of those previously generated (choose the best). The importance of impulse control is emphasised. The use of emotions in aiding problem-solving is addressed and rehearsed. Hypothetical problems are presented with a wide range of alternative solutions. The participant is encouraged to select the one most likely to solve the problem. The solutions are evaluated by the following criteria: safety, fairness, feelings, emotional well-being, time and effort, effectiveness, and consequences.

Session 11. Decision making criteria: I: Effectiveness. The participant is presented with a hypothetical problem and asked to generate a number of alternative solutions. Each solution is then evaluated for its effectiveness using self-addressed questions such as, "What will happen if I choose this one?" and "Which one is best?" Role-play is used to illustrate and examine each alternative.

Session 12. Decision making criteria: II: Social Acceptability. The participant is asked to evaluate a hypothetical problem and generate alternative solutions, using the criterion of effectiveness and the criterion of social acceptability. Self-advocacy and feelings as a cue to problem-solving are examined. The participant is encouraged to use self-addressed questions such as, "What will other people think?" and "How will other people feel?"

Session 13. Decision making criteria: III: Consequences. The participant is presented with a hypothetical problem, asked to generate a number of alternative solutions, and encouraged to evaluate each solution using the criterion from previous sessions. A role-play is used to test each alternative in terms of likely consequences. The participant is encouraged to consider as many consequences as possible, and during this process to use self-addressed questions such as, "What things can happen if I choose this one?" The criteria used for hypothetical problems are related to personal real problems.

Session 14. Consideration of means to ends and obstacles. The following issues are explored: What is a means, what is an obstacle and what can we do to get what we want? Hypothetical problems are used for the participant to practice at providing the beginning and the end of a problematic situation. Participants are encouraged to provide as many means (or steps) that they can to achieve the desired end. Components from previous sessions are included, such as criteria to evaluate effectiveness, social acceptability and consequences of a response.

Session 15. Solution implementation and verification. The following issues are discussed: Does the social problem-solving process end with the behavioural implementation of the selected action? Should emphasis be placed on the feedback received on the implemented

action? If a solution does not prove to satisfy the desired goal, can the process of problem-solving start again? Self-defeating statements are challenged, in case the desired goal is not achieved. The importance of behavioural overt social skills is discussed. Examples of hypothetical problems are offered and behavioural plans to execute the decision are tested. Role-play is used to test the component. The participant is encouraged to use self-addressed statements such as, “Did it work?” “Did I get what I wanted?” and “Was I a good problem-solver?”

Table 4

Hypothetical problems used for assessment and training purposes (Lounidis, 1993)

Impersonal practical problem without social contact	Getting help in case of injury Getting help in case of fire Suspecting burglary Losing money or other object
Impersonal practical problem without social contact	Missing the bus Being lost in a new place Being ill and getting help Finding information from different sources
Personal needs/ desires towards authority	Asking for some help from authority Expressing negative feelings towards them Tell them to keep their promise if broken Wanting more or different food for breakfast
Personal needs/ desires towards strangers	Asking strangers for some help Planning party with the neighbours Preparing for an interview Controlling sexual urges towards underaged
Conflict from authority	Staff stop you from doing what you want Staff rationing your cigarettes Staff disciplines client in a rough way Dealing with unpleasant sarcastic comments from staff
Conflict from peers	Peer imposes on you, bosses you around Peer threatens you in order to do things Criticism from peers in a non constructive manner Peers winding you up to annoy you
Conflict from strangers	Being called names in the community Don't take you seriously, laugh at you in shop Neighbours blame you for things you haven't done Controlling anger when provoked

The present study

This was a small study which attempted to extend the research findings of Loumidis and Hill (1997a), by including an assessment of psychological distress in addition to that of problem-solving skills, maladaptive and adaptive behaviour. Training occurred within a community setting on an individual basis, but otherwise closely replicated the model developed by Loumidis (1993). More detail on the methodology used is outlined in Chapter 6.

Social problem-solving training showed significant improvement in some components of social problem-solving skill and maladaptive behaviour in the Loumidis (1993) study. The present study was designed to ask whether social problem-solving training can decrease maladaptive behaviour and increase adaptive behaviour in adults with mild intellectual disability, and as an extension to the research findings in the Loumidis (1993) study, asked if social problem-solving skills training can decrease psychological distress (low self-esteem, anxiety and depression) in adults with mild intellectual disability.

CHAPTER 5: METHODOLOGY

This chapter discusses single-case research design and their use within an applied setting. It outlines the basic strategies around measuring clinical significance, and the method used in this study. Treatment manuals and homework compliance are discussed as important factors of treatment integrity. And finally, the measurement of outcome is described in terms of the use of a multi-trait multi-method assessment protocol, a description of data collection phases within single-case research design, and the assessment protocol used in the present study.

The applied setting and effectiveness studies

Efficacy is defined as “the potency of an intervention, as assessed under highly controlled conditions (i.e., those found within a research trial)” (Bower, 2003, p. 329). In order to safeguard towards internal validity, the researcher needs to assess and screen participants so that they have similar diagnoses, therapists need to adhere to a specific treatment protocol, and strategies such as the random allocation to treatment, control, and alternative treatment need to be implemented (Bower, 2003; Lutz, 2003). The result is the ability to prove that change is due to the treatment and that the treatment is empirically supported, although this may be at the expense of external validity (Bower, 2003; Lutz, 2003). Effectiveness research with high external validity and the ability to generalise is a good alternative, especially if it can maintain internal validity (Chambless & Hollon, 1998; Goldfried & Wolfe, 1998). Maintaining internal validity can be enhanced by using treatment manuals and by using assessment methods to monitor responses (Kazdin, 2003). Outcome research with high external validity facilitates collaboration between researchers and clinicians by its ability to inform the practicing clinician. General directions in which effectiveness research should take (to improve internal and external validity) are the improved collaboration between researcher and clinician, the improvement and use of research manuals, the use of single case research design, the matching of treatment to clients individual needs, and research findings which can provide useful application to clinical practice (Goldfried & Wolfe, 1998). The present study used a multiple single-case research design to examine the

effectiveness of social problem-solving training for the treatment of behaviour and psychological distress.

Single-case research design

Single-case design studies can be effectively applied within an applied setting and can successfully control for internal validity, particularly if they use objective data sources, continuous assessment, focus on stable problems, demonstrate large treatment effects and study many heterogeneous problems among many cases (Kazdin, 2003; Lueger, 2002). In contrast to larger group studies, in which participants may be allocated to a control group or an alternative treatment group, each participant is provided treatment. In larger group studies treatment effects are measured by testing hypotheses about group mean differences, but are limited by the likelihood that they may stifle innovation and hinder the implementation of the scientific-practitioner model (Blampied, Barabasz, & Barabasz, 1996; Blampied, 1999). Alternatively, single-case research design allows unique differences or sources of variability within participants to be examined (Barlow & Hersen, 1984), and make it possible for scientifically valid conclusions to be drawn from individual results (Blampied et al., 1996). Advantages of single case-studies are that they are able to identify rare and unique events, allowing the generation of new hypotheses which can be subjected to further experimental research (Gedo, 1999). This research design can be a source for developing therapy techniques, can cater for the study of rare problems, can challenge accepted applications, and can provide persuasive support for what was abstract principles (Barlow & Hersen, 1984; Kazdin, 2003). In addition, the use of effect size measures from many single-case research studies can be used to develop meta-analyses, a statistical method of measuring treatment effect (Busk & Selin, 1992; Gedo, 1999).

Clinical significance

Statistical significance is a means of examining whether there is a relationship between two variables, but does not provide information on the strength of the relationship or whether the relationship is meaningful (Kazdin, 2003; Kraemer et al., 2003). Statistical comparisons use group means, which provide little information on treatment effects on each individual (Jacobson, Roberts, Berns, & McGlinchey, 1999). So although there may be statistically

significant change, this change may not have any practical value (Jacobson et al., 1999). Clinical significance is a means of measuring the practical value of the treatment to the client, in which there is a return to normal functioning, but which may vary in response to the importance the change may mean for a client (Bauer, Lambert, Nielsen, & Lars, 2004; Jacobson et al., 1999; Kazdin, 2003). Although there are no clear guidelines on how clinical significance should be measured, basic principles involve comparison of the client's performance with others (normative comparisons), the subjective evaluation of change by the client or significant others, and by the social impact of the change (Kazdin, 2003). Jacobson et al. (1999) consider two main criteria for clinically significant change. These are that the amount of change should be statistically reliable, and that at the end of treatment the client should be functioning at the same level as those from who are well functioning. It is recommended that the measurement of clinical significance include the RCI, a measurement of change which involves dividing the magnitude of change with the standard error of the difference score (Jacobson et al., 1999). This form of calculation requires psychometrically sound instruments and the existence of norms (Jacobson et al., 1999; Wampold & Jensen, 1986)

Normative comparisons have been an accepted method of assessing clinical significance, but are dependent on the comparison of group means, the identification of a normative population, and a definition of what normative behaviour is (Blanchard & Schwarz, 1988; Kazdin, 2003; Kraemer et al., 2003). There are practical difficulties with using normative data, in particular, problems with availability and suitability of normative data (Foster & Mash, 1999). With the use of a small multiple single-case design examining the effect of treatment on a unique population, the collection of group means and norms is difficult, and so as an alternative, presenting information as a percentage of change may be of more practical use to the clinician (Blanchard & Schwarz, 1988). The use of 50% change to indicate clinical significance has been used in previous single case studies examining the treatment of headaches (Blanchard & Andrasik, 1985), irritable bowel syndrome (Blanchard & Schwarz, 1988), and social phobia (Stravynski, Arbel, Lachance, & Todorov (2000). A 20% change has been used to define high end-state responding for the treatment of GAD (Orsillo, Roemer, & Barlow, 2003). In this study the more conservative 50% change is used as a cut-off to measure clinical significance.

Treatment integrity

Treatment integrity is the measure of the extent to which the treatment was conducted as intended (Kazdin, 2003). If the treatment is described in detail, such as within a laboratory manual, it is easier to decide whether treatment integrity was maintained. Other factors, such as the uniform training for therapists, continual case supervision, monitoring of treatment, and homework compliance can also add to treatment integrity (Kazdin, 2003; Kazantzis, 2000; Kendall, Holmbeck, & Verduin, 2004).

Treatment manuals

Treatment manuals guide the therapist towards conducting a certain treatment technique, procedure or action (Kendall et al., 2004; Lambert & Bergin, 1994). It is difficult to assess the efficacy or the internal validity of a treatment if a manual is not written or followed (Chambless & Hollon, 1998; Kazdin, 2003). In addition, monitoring the therapists adherence to the manual, can lead to more successful treatment outcomes (see review by Addis, 1997). The use of treatment manuals represents an effort to operationalise therapy according to a certain approach, and present with a number of advantages (Lambert & Bergin, 1994; Lambert & Ogles, 2004).

One advantage for the use of treatment manuals is that they aid the training of therapists in specific procedures and monitor the adherence to these procedures (Addis, 1997). The use of treatment manuals help to reduce variability in the delivery of treatment, and aid a more sensitive comparison of treatments allowing for improved replication research, and improved interpretation of treatment outcomes (Lambert & Ogles, 2004; Goldfried & Wolfe, 1998). A second advantage for the use of treatment manuals is that they allow clinicians to explore the impact of treatments described in research and close the gap between research and clinical practice (Addis, 1997; Kendall, Holmbeck, & Verduin, 2004; Lambert & Bergin, 1994). However, therapist adherence to treatment manuals, should not be confused with therapist competence, which includes the ability to engage a client in a therapeutic relationship, and the skilful and flexible use of treatment. Through training and supervision, therapist competence can further promote positive outcome (Kazantzis, 2003).

The treatment administered in the present study followed the session-by-session guidelines provided in the Loumidis (1993) study. These guidelines lacked detail of the techniques used in the Loumidis (1993) study, but reference to their source was provided (i.e., from the D’Zurilla (1986) manual for social problem-solving training). To facilitate the understanding of concepts and techniques used to provide social problem-solving training in the present study, additional material was sourced from the problem-solving training manuals found within the D’Zurilla (1986) and the revised D’Zurilla and Nezu (1999) texts.

Homework compliance

As a further effort towards treatment integrity, therapists use homework as a means of involving clients in activities in order to promote learning between sessions (Kazantzis & Lampropoulos, 2002a). The practice of homework allows clients to generalize session learning into real-life situations (Kazantzis & Lampropoulos, 2002b). Completing homework allows time between sessions to be used as an essential focus of treatment integrity, especially if clients vary in their completion of homework (Kazantzis, 2000). Research has shown a link between including homework assignments, client compliance with homework and improved treatment outcome (Kazantzis, Deane, & Ronan, 2000).

The Social problem-solving skills training protocol developed by Loumidis (1993) included a provision for homework, and therefore, for the present study, a homework compliance measure was designed and included as a measure of treatment integrity. Individuals with intellectual disability have low motivation (Dagnan & Sandhu, 1999) and previous research has suggested that individuals with intellectual disability show poor compliance with homework (Loumidis, 1993). In addition to using the homework measure to monitor treatment adherence, it was anticipated that its use would encourage homework compliance and therefore further assist treatment outcome.

Measuring outcome

There are a number of important issues, which should be considered when measuring outcome (Hill & Lambert, 2004). One issue to be considered is that it is important to

clearly specify what is being measured so that replication can occur, to measure change with several types of methods, to use symptom-based measures, and to examine patterns of change over time. In addition, outcome measures should be commonly used so as to facilitate comparisons across studies (Hill & Lambert, 2004). Therefore, this study used outcome measures, which have been used in previous research within this population.

Scales used to measure a single trait have advantages over multi-trait scales in that they are brief and can be completed in a short period of time. They are also usually easy to administer and score allowing them to be administered frequently without discomfort (Hill & Lambert, 2004; Sternfert Kroese, 1998). Individuals with intellectual disability generally have a low concentration span and for this reason single-trait scales that are less time intensive are most suitable for this population. Given the present study's aim of measuring the effect of social problem-solving training on psychological distress, single-trait scales such as anxiety, depression and self-esteem were used.

Outcome assessment should be taken from many different perspectives (client, support worker, significant others), and should make use of different methods of assessment (self-report, direct observation, interviews) (Kendall et al., 2004; Hill & Lambert, 2004). This is particularly relevant to adults with intellectual disability. Communication problems, low assertiveness and lack of self-awareness may lead to biased assessment when only one method of assessment is used (Bramston & Fogarty, 2000). Consequently, the present study used self-report, clinician interviews and assessment from support workers.

Assessment should assess many characteristics of an individual and domains of functioning (Kendall et al., 2004; Hill & Lambert, 2004). It is considered essential to have a list of outcome measures, which measure subjective distress (e.g., self-esteem, depression, anxiety), level of functioning (e.g., adaptive behaviour), and personality functioning (Horowitz, Strupp, Lambert, & Elkin, 1997).

Level of functioning is a measure of impairment in social and occupational functioning and includes interpersonal relations, social role functioning, self-care and physical health and

social costs (Horowitz et al., 1997). Individuals with intellectual disability are frequently limited in social and occupational functioning (American Association of Mental Retardation, 2003), and for this reason an adaptive behaviour scale specifically designed for individuals with intellectual disability was used in the present study (Nihiri, Leland, & Lambert, 1993).

Two categories are generally considered as most relevant in subjective states: symptoms such as anxiety and depression, and attitudes toward self, such as self-esteem (Horowitz et al., 1997). Many individuals with intellectual disability suffer from depression, anxiety and low self-esteem and for these reasons self-reports monitoring these subjective states were included in the assessment battery (O'Brien, 2002; Ranzon, 2001; Sternfert Kroese, 1998). There is reference to the difficulties involving the use of self-reports for individuals with intellectual disability in Chapter 1 of this text. To complete the assessment of positive treatment outcome, a social problem-solving skills measure was administered as a structured interview at baseline and at post-treatment (see Table 5 for assessment protocol).

Table 5

Assessment protocol for the present study

Baseline:	Social problem-solving skills
Two weeks before treatment begins	Anxiety
	Depression
	Self-esteem
Pre-treatment:	Adaptive behavior scale
Before first treatment session	Anxiety
	Depression
	Self-esteem
Mid treatment:	Anxiety
Before 8 th treatment session	Depression
	Self-esteem
Post-treatment:	Social problem-solving skills
After final (15 th) treatment session	Adaptive behavior scale
	Anxiety
	Depression
	Self-esteem
Follow-up:	Anxiety
Four weeks after final treatment session	Depression
	Self-esteem
During sessions 2 to 15	Homework compliance measure

Data collection phases within single-case research design

Data collected for single-case research should be ideally conducted on a daily basis or a few times a week, and separate phases should represent which conditions are present (Kazdin, 2003). This usually involves at least baseline, treatment and follow-up data collection phases. Baseline data provides evidence of the client's behaviour before any treatment has begun and enables the researcher to judge whether treatment has altered the level of performance (Kazdin, 1998). It is recommended that baseline data be collected over a large period of time to determine that the behaviour is stable. When variation changes follow the intervention, this may support the conclusion that the intervention has effected change. If the baseline data shows variability, or if the researcher is unable to show that the baseline behaviour has stability, then it is difficult to evaluate the effects of the intervention (Barlow & Hersen, 1984; Shaughnessy & Zechmeister, 1997).

Once the intervention is applied, it is common practice to assess client performance continually while the intervention is in effect (Kazdin, 2003). This continual assessment can strengthen the internal validity of a case study, especially if baseline data has been obtained. Continuous assessment allows for evidence of changes due to testing or instrumentation before treatment begins, regression to the mean is eliminated, and a pattern in the data can be observed. The more immediate the change is after the onset of treatment, the stronger the case is that the treatment was responsible for the change. If in addition to immediate change, a large magnitude of change is evident, this gives further evidence that the treatment was effective. The influence of history and maturation (i.e., change associated with the passage of time) can be ruled out as rival hypotheses, because maturational and history changes are unlikely to be abrupt and large (although this cannot be completely ruled out) (Kazdin, 1998; Shaughnessy & Zechmeister, 1997).

Post-treatment assessment is obtained immediately after treatment. It is used to evaluate change after treatment. Any assessment following post-treatment assessment is referred to as follow-up and can range from weeks to years. A treatment that appears effective at post-treatment may not retain its effectiveness at follow-up, and therefore evidence of the

maintenance or stability of possible gains achieved during the intervention is recommended. This is achieved through the maintenance of assessment during the follow-up period. (Kazdin, 1994).

All the above considered, it is necessary to make accommodations to the ideal, for ethical or procedural reasons (Barlow & Hersen, 1984). There are some ethical concerns involving subjecting individuals with mild intellectual disability to continuous assessment. Individuals with intellectual disability may have a limited attention span and may find that continuous requests for the completion of measures be tiring and time consuming. Acquiescence (i.e., the tendency to answer yes rather than no, when unable to understand the question), is a well documented feature of self-reporting amongst individuals with intellectual disability (Reed, 1997; Sternfert Kroese, 1997), and their eagerness to answer in the affirmative may result in self-reports completed haphazardly, leaving the researcher with inaccurate data. The less mundane and tiring the completion of self-reports are, the less chance that acquiescence may occur. Minimisation of harm in such individuals is also a concern. Care needs to be taken that we do not overburden participants, particularly those already burdened with a disability (Massey University Human Ethics Committee, 2003).

Assessment protocol

Previous research using a multiple single-case study and providing cognitive-behavioural therapy for individuals with intellectual disability has minimized data collection of depression and anxiety to pre-treatment, after treatment and 4 months follow-up. Baseline measures of participant's negative thoughts were monitored at baseline, throughout treatment, at post-treatment and at follow-up (Lindsay et al., 1993). A controlled study used pre- and post measures to measure the effects of social problem-solving training on individuals with intellectual disability (Lourmidis & Hill, 1997a). Similarly, a study by Lindsay et al. (1997) used pre-treatment, mid point between treatment, post-treatment and follow-up data collection points in a single case study on cognitive-behaviour therapy for anxiety for an individual with intellectual disability.

As a compromise to an ideal assessment protocol, and as a result of a restricted time frame, the present study restricted collection of data for the measurement of psychological distress to two weeks before training (baseline), before the first training session (pre-treatment), before the eighth training session (mid-treatment), after the last training session (post-treatment), and at 4-week follow-up. The restriction to a 4-week follow-up allowed the research to be completed within the time frame allocated to the research project, and at the same time reduced participants' time commitment to the project (see Table 5). Social problem-solving skill was measured at baseline and at post-treatment, and behaviour was measured at pre-treatment and post-treatment. This restriction to two data collections (before and after treatment) was consistent with previous research (Loumidis, 1993; Loumidis 1997a).

In summary, this chapter has considered methodological issues in the design of the present study. These include the use of a multiple single-case design methodology, the adherence to a treatment manual for the implementation of training, a multi-trait and multi-method assessment protocol and the introduction of a homework protocol and homework compliance measure within the treatment. The following chapter describes more specifically, the detail of the method used in the present study.

CHAPTER 6: METHOD

This chapter describes the characteristics of the participants involved in the present study. It discusses the selection criteria and the setting in which participants were provided social problem-solving training and gives a description of the assessment measures used to measure outcome. The chapter concludes with an outline of session structure and procedure used in the provision of the training, and ends with a section on ethical approval and the method used to gain informed consent from participants.

Sample

Participants

Five males and one female from a community vocational service were invited to participate in the study. All participants had been diagnosed with mild intellectual disability through the Regional Intellectual Disability Care Agency (RIDCA²), prior to their entry to the community service. Six participants were invited to participate in the study, one declined, one dropped out after session three and another dropped out after session nine. Three participants completed the training. Their ages ranged from 19 years to 52 years old.

Selection criteria

All participants had mild intellectual disability, that is, an IQ ranging between 50 and 75 and significant limitations in adaptive functioning (American Association of Mental Retardation, 2003). The requirement for entry into the community vocational centre was that individuals have mild intellectual disability, as well as challenging behaviour or mental illness. A clinical psychologist from RIDCA completed the assessment by assessing intelligence and adaptive behaviour.

² RIDCA is a service contracted by the Ministry of Health, New Zealand, to provide individualized/specialized responses to people with an intellectual disability who have high and complex needs.

The social problem-solving training provided in the study requires verbal interaction between participant and therapist and therefore, given the nature of the present study, potential participants were identified for a minimal level of verbal ability, (i.e., the ability to hold a conversation), and the ability to concentrate for a reasonable length of time. The Senior Team leader at the community vocational centre identified potential participants by the criteria described above. The individuals identified were those who would most benefit from the study by their ability to communicate and interact with another, and once identified, they were invited to participate in the study.

Setting

The community vocational service supported individuals with intellectual disability who presented with challenging behaviour or a comorbid mental illness. Clients were assisted to re-integrate into the community with the aim of eventually finding vocational employment within the community. When the present study commenced, the number of clients within the service was limited to 10 individuals. Since then, the service had grown to provide services for approximately 20 individuals.

Clients lived in shared residential homes, of about three clients per residence, and were supported by residential support workers. The residential service, was a separate organisation, but worked in partnership with the community vocational centre. Within the community vocational service, clients had at least three staff directly involved in their care, that is, a care manager, key worker and support worker. Clients attended the centre daily from 9am to 3 pm where they were supported by vocational support workers.

On entry to the community vocational centre, each client was assigned to a care manager who was responsible for the coordinating of various supports and services to achieve the client's goals. The care manager oversaw the development of a service plan in which skill development and rehabilitation goals were outlined, and a risk management plan was detailed. Both residential and vocational services used this plan as a guide to providing a 'holistic integrated model' of care for the client. The date for a review of the service plan was normally six monthly, but had been reviewed more frequently when the needs of a

client changed. In addition, the client was assigned to a key worker within the vocational centre. The key worker was more actively involved with the daily vocational care of the client. The case manager, key worker and client met monthly to prepare an individual plan for the client. This plan focused on providing an individualised goal orientated plan for the client. Once a week, the key worker and the client planned daily activities for the following week. These daily activities followed the goals established within the individual plan and service plan, and were supported by the key worker or other support workers within the service.

Key workers and support workers within the service were required to have a mental health qualification or be in the process of attaining a mental health qualification before employment. Qualifications ranged from mental health certificates, social worker qualifications and undergraduate degrees. Some had extensive experience as mental health support workers; others had little or no prior experience in mental health work.

Design

The present study followed a multiple single-case design. A multiple single-case design was chosen, as there were only a small number of clients involved in the service at the time of the commencement of the present study, and only six were considered suitable for involvement in the study.

Assessment measures

The measures described below were administered according to the assessment protocol described in Chapter 5 (Table 5).

Assessment of behaviour

The present study hypothesized that the provision of social problem-solving training to individuals with mild intellectual disability should allow adaptive behaviour to increase and maladaptive behaviour to decrease. In addition, a previous edition of the adaptive

behaviour scale described below, had been used in an earlier study in which social problem-solving had been given to individuals with mild intellectual disability (Loumidis, 1993). For these reasons, the present study (in a partial replication, of the before-mentioned study) used this measure to assess adaptive and maladaptive behaviour at pre-treatment and post-treatment.

AAMR Adaptive Behavior Scale – Residential and Community, Second Edition (Nihiri et al., 1993). This scale is designed to meet the AAMR definition of mental retardation which include an intelligence of below 75 and early age of onset. Its purpose is to determine a person's strengths and weaknesses in two adaptive domains, to identify individuals who are well below their peers in important aspects of adaptive behaviour, and to follow the progress of individuals enrolled in treatment programs and research studies. It is specifically designed for individuals with intellectual disabilities in residential and community settings.

Part One of the scale includes 18 domain scores, designed to evaluate coping skills important to personal independence and responsibility in daily living (i.e., adaptive behaviour). Part Two includes eight domain scores, which focus on social behaviour, and relate to the manifestation of personality and behaviour disorders (i.e., maladaptive behaviour). The domain scores are useful for analysing item performance within the domains and facilitate the planning of intervention programs.

There are 5 factor scores, which are based on the analyses of domains within Parts One and Two. The authors of the scale (Nihiri et al., 1993) performed a confirmatory factor analysis and identified three factors in Part One (Personal Self-Sufficiency, Community Self-Sufficiency, and Personal-Social Self-Sufficiency), and two factors from Part Two (Social Adjustment and Personal Adjustment).

An interview is conducted with a person (e.g., parent, guardian, support worker etc.) who had good knowledge of the individual being rated. Item raw scores from each of the two domains are summed and presented as standard scores, percentile ranks and age equivalents. The manual provides a description of reliability and validity data, sourced from

numerous studies conducted during the development of the measure. The measure has been standardized on individuals with developmental disabilities and shows internal consistency from .80 to .99 for the domains and .92 - .98 for the factors (Nihiri et al., 1993). The manual describes yielded stability coefficients from .80 to .90, and high inter-scorer reliability of between .83 and .99. Part One shows convergent discrimination with standardized intelligence tests (.27 to .73) and with other adaptive scales (.31 - .71). Reviewers consider it a useful, comprehensive and technically adequate scale for assessing adaptive and maladaptive behaviour of individuals with disabilities (Carey, 1998; Harrison, 1998).

Assessment of psychological distress

As an extension to the Loumidis (1993) study, the present study hypothesized that the provision of social problem-solving training should, in addition to behaviour, improve anxiety, depression and self-esteem in individuals with mild intellectual disability. Self-report measures for these constructs were selected for their evidence of previous use with individuals with mild intellectual disability.

Adapted Zung Anxiety Inventory (Lindsay & Michie, 1988). Lindsay and Michie (1988) adapted the Zung Anxiety Inventory (Zung, 1971) for individuals with intellectual disability. They presented the adapted measure to 29 adults with moderate to mild intellectual disability. In this measure, items had been simplified from the original, and a forced choice (*no/yes*) presentation replaced the original likert scale. When there was evidence of a lack of comprehension of items, these items were re-phrased and re-worded. The forced choice (*no/yes*) presentation was reversed to a forced choice (*yes/no*) presentation three months later. There was a correlation of .49 between the *no* and the *yes* responses, and a correlation of .83 between the two forced choice presentations (i.e., *no/yes* and *yes/no* presentation). This provided good evidence to suggest that there was not a response set in the *no/yes* presentation. In a further study, an analysis of the factor structure showed that this adapted scale predicts anxiety on the basis of DSM III-R criteria, and shows significant test-retest reliability (Morrison, 1993).

Adapted Zung Depression Scale (Reiss & Benson, 1985). Reiss and Benson (1985) developed and adapted this 20-item self-report scale from the original Zung (1965) scale for use with the mildly intellectually disabled. The original Zung Depression Scale (Zung, 1965) was designed for use in patients with depression or as a screening measure of depression. The items represent domains of mood, somatic concomitants and psychological concomitants. It shows sensitivity and specificity of .88, split-half correlation of .73, and concurrent validity with the HRSD and the MMPI Depression scale (Basco, Krebaum, & Rush, 1997). Part of the adaptation involved changing the original four-point response scale into a forced choice (yes/no) format and the item, 'I still enjoy sex' was removed. The revised scale has been used in previous studies with people with intellectual disabilities (Dagnan & Sandhu, 1999; Kazdin, Matson, & Senatore, 1983), and test-retest data show a Pearson's correlation of .75 (Kazdin et al., 1983).

Adapted Rosenberg Self-Esteem Scale (Dagnan & Sandhu, 1999). The original Rosenberg Self-Esteem scale reported stability coefficients of .85 and .88 for small college samples over 2-week intervals (Bracken, 1996; Rosenberg, Schooler, & Schoenbach, 1989). Alpha coefficients were reported as .77 for the total scale score. There is evidence of the convergent and discriminant validity of the scale, and factor-analytic studies have identified two factors for the items (positive and negative self-esteem items) (Bracken, 1996).

Dagnan and Sandhu (1999) adapted the Rosenberg Self-Esteem scale (Rosenberg et al., 1989) for individuals with mild intellectual disability. They simplified the wording but retained the original meaning of each item. More specifically, the following wording was used: (1) 'I feel that I am a good person, as good as others'; (2) 'I feel I have a lot of good qualities'; (3) 'I am able to do things as well as most other people'; (4) 'I feel I haven't done anything worthwhile'; (5) 'I like myself'; (6) 'At times I think I am no good at all'. Each one of these items was presented on a single A4 page with blocks of increasing size. These blocks act as visual cues alongside the written response categories to indicate the increasing magnitude of a response (see Appendix B). Dagnan and Sandhu (1999) subjected this adapted Rosenberg Self-Esteem Scale to a psychometric evaluation, which provided a mean item total correlation of .34 and an alpha value of .62. Test-retest data show a correlation

of .68. They concluded that concurrent validity seemed reasonable, and that the internal reliability and factor structure appeared as good and as similar to that predicted by Rosenberg's theoretical model of self-esteem (Dagnan & Sandhu, 1999).

Assessment of problem-solving skills

Social problem-solving skills measure (Laurids, 1993). This measure was developed according to Goldfried and D'Zurilla's (1969) behaviour-analytic model. Relevant problems were collected from 34 individuals with intellectual disability in a residential hospital and an adult training day centre. Additional problems were obtained from mental health professionals in a residential hospital, from staff working in a social services setting and from a review of previous research. The problems used included impersonal practical problems without social contact (e.g., 'one day you wanted to watch TV and the TV was not working'), personal needs or desires towards authority (e.g., 'you didn't like the place you were working and wanted to change groups'), peers (e.g., 'there was a person here that you would like to be your boy-girlfriend'), and strangers (e.g., 'you had no friends at home and you were feeling lonely'), and conflict from authority (e.g., 'staff blamed you for things you hadn't done'), peers (e.g., 'the person you live with started telling lies about you'), and strangers (e.g., 'the person in the shop was ignoring you and not serving you'). The administration of the measure is carried out through a structured interview during which a series of questions are asked for each of the eight problems. These are scored for components of social problem solving skill (Table 6).

Table 6

Social problem-solving skill components (Lounsbury, 1993)

C1	Problem definition
C2	Degree of autonomy of problem-solving style
C3	Number of statements (solutions and irrelevant responses)
C4	Number of alternative solutions generated
C5	Number of irrelevant responses generated
C6	Degree of comparative reasoning
C7	Degree of justification of the solution
C8	Degree of social acceptability of solution
C9	Degree of effectiveness of solution
C10	Number of relevant pre-action thoughts
C11	Number of relevant means to ends
C12	Degree of realism of all means to ends

Assessment of homework compliance

Brief homework rating scale – Intellectual disability. This measure was adapted specifically for the present study and was based on a measure developed by Kazantzis et al. (2000) for the general adult outpatient population, as a means of assisting clinical practice towards more reliable and valid assessment of homework compliance. The original measure was a questionnaire containing 3-items asking clients to rate quantity and quality of compliance and difficulty of homework activity. The full version of this scale is a 12-item self-report asking the clients to rate quantity and quality components, related to client, therapist and task characteristics, on a 5-point scale (Kazantzis, Deane, & Ronan, in press). The original 3-item homework rating scale was adapted for individuals with intellectual disability by simplifying the wording to: (1) 'How much did you practice the task?' (2) 'How well did

you practice the task?’ and (3) ‘How hard was the task?’ (see Appendix B). Blocks of increasing size were added to act as visual cues for the likert-style response categories, as with previous measures adapted for this population (i.e., Adapted Rosenberg Self-Esteem scale, Dagnan & Sandhu, 1999)

Procedure

Social problem-solving training

Participants were assessed before and after treatment for social problem-solving skill, and for adaptive and maladaptive behaviour. In addition, assessment of psychological distress (depression, anxiety and self-esteem) through self-report, occurred at baseline, pre-treatment, mid-treatment, post-treatment and follow-up. Participants received 15 sessions of social problem-solving training. Each session followed a standard structure as outlined in the protocol of the Loumidis (1993) study (see Table 7).

Table 7

Session structure for social problem-solving training (Loumidis, 1993)

1.	Conversation and counselling for emotional problems
2.	Review of previous session
3.	Review of homework
4.	Teaching the new component
5.	Exercise on problem vignettes
6.	Application on individual problems
7.	Assignment of homework
8.	Review of session
9.	Relaxation exercise

Each individual received one session per week, which lasted between 45 minutes and one hour. The training followed the protocol developed by Loumidis (1993), but included a

number of changes due to the small number of participants and their interactive styles. Specifically, Case 2 and 3 had comparatively well developed communication and social skills, and had requested to receive the training together (as a small group), in order to support each other. Therefore, Case 2 and 3 received the first three sessions together, after which Case 3 dropped out from the study. From then on, Case 2 received all training individually. Furthermore, due to the difficulties other participants had with social interaction, these participants received training individually, although occasionally and at the participant's request, a support worker was present during the sessions. Support workers were not encouraged to contribute to the training, although at times reassurance or clarification was requested from them.

There was a consistent approach to the assigning and review of homework activities. At the beginning of each session there was a review of the component learned in the previous session, followed by a review of the homework assigned in that previous session, and a request for the participant to complete a homework compliance measure. Approximately 10 minutes before the end of the session, and before a review of the session, the participant was assigned homework for completion before the next session. In addition, where possible, the therapist enlisted the involvement of support workers to assist the participants in the completion of homework. The individual format allowed more time with each client and hence sessions were at times, shorter than one hour. In addition, distractions within the setting and difficulties with participant's ability to concentrate meant that some sessions were cut short (i.e., sessions ranged from 30 to 60 minutes).

Ethical approval

This study followed ethical guidelines set out by the New Zealand Psychological Society and the American Psychological Association (2001). It also adhered closely to recommendations for working with individuals with intellectual disability as suggested by Bray (1998) from the Donald Beasley Institute (in particular to the means of gaining informed consent). Gaining informed consent involved reading the information sheet to each participant, and answering questions. Participants were encouraged to discuss the information sheet with their support workers before consent was given. Informed consent

was obtained through a signed consent form. The consent form was read aloud to the participant, and questions were asked to ensure that the participant understood what the study entailed. This process was recorded with an audio tape recorder. In line with University regulations, the proposed study was reviewed and approved by the Massey University Human Ethics Committee and the Auckland Ethics Committee.

CHAPTER 7: ANALYSIS AND RESULTS

Case 1 ("John")

Background information

John³ was a 19-year-old young man who had been admitted to the vocational support centre with a diagnosis of mild intellectual disability, attention-deficit/hyperactivity disorder (i.e., a short attention span and/or hyperactivity) and paraphilia (i.e., he was sexually aroused by small children and would expose himself in their presence). He had diurnal enuresis (i.e., urinal and faeces incontinence) and very poor eyesight without his glasses. He presented as a friendly and interactive young man, and was neatly dressed with large plastic glasses. He had a slurred speech, which was sometimes difficult to understand. He was enthusiastic about the assessment and training, but needed constant reminders to remain on task. He was easily distracted and became agitated very easily and quickly. For example, he reacted to unwanted direction or frustration by physically punching holes in walls, breaking windows, spitting and banging his head against walls. He would also sit down on the floor as a protest to a support worker's instruction. This behaviour occurred at least once a day and lasted for about an hour. His enuresis was a constant problem during the day, and reactions from staff and clients to his enuresis, as well as other directions from staff, initiated aggressive and defiant behaviour. He needed prompting to wash, guidance with dressing and frequent reminders to use the toilet in order to manage his enuresis. He was on a medication regime of Risperidone and Sodium Valproate. Staff found that he responded well to instruction when using a pictorial diagram, but appeared to have difficulty in thinking about the consequences of his behaviour. The community vocational centre had focused on assisting him to attend meaningful activities with his peers (e.g., attending musical group activities and shared meals), to engage in social recreational activity, to increase his social learning, to help him manage his incontinence and to maintain family visits. Before training commenced, during a conversation between himself

³ Names and other identifying information have been changed to protect the participant's identity

and the therapist, he showed a willingness to learn how to problem-solve in order to change his behaviour.

Treatment

Session 1. The purpose of this first session was to define the terms ‘problem’ and ‘solution.’ When asked to give an example of a problem, John described how it upset him when his flatmate would wrestle with staff, as he believed that the staff did not like it. He also described how he would like to apply for a job at a fast-food restaurant. When asked what a solution to this would be, or how he could make this happen, he said that he would have to learn some new skills, such as taking “time out” and “stopping his wetting” before he could do that. He added that this was something he had discussed with his support worker immediately prior to the session. To close the session, a relaxation exercise was given, with which John struggled. He did not like to close his eyes, and did the relaxation exercise with his eyes open.

Session 2 - 3. In these sessions, John was introduced to the concept of impulse control and how negative feelings can be an indication that there is a problem. He was shown some pictures of an angry man, and then a sign with the words ‘STOP AND THINK’. This concept was role-played, that is, “stop, count to five, take deep breaths and think about what you could do to solve this solution”. John was given a card with an illustration of a stop sign, and the words ‘STOP AND THINK’ underneath it, to use as a prompt whenever he felt upset. During the next session, John was shown a chart with illustrations of an angry, irritable, scared and sad person, and asked to indicate which person illustrated how he had felt over the past week. John picked out a picture of a sad person, and then was asked what it was that had made him feel that way. He described how he felt sad when his flatmate did not want to play a game with him. This was identified as the problem. He was asked how he would have felt if his flatmate had played with him and he answered that he would feel happy. It was emphasized to him that negative feelings indicate that there is a problem, and that it requires a solution.

Session 4. John had been unable to attend the last two sessions due to being part of an Outward Bound ⁴ course. He looked happy and relaxed but did not want to discuss any problems. A hypothetical problem was used to practice the new component in which negative feelings, inefficient behaviour and social feedback are used as cues to identify a problem. He was asked, "What would you do if there was a fire in the house?" He was asked how he would feel, how he would behave, and how others would react to his behaviour. John answered that he would feel "scared", that he would "run around not knowing what to do", and that others "would be worried". He got very involved in the role-play of this scenario, and kept running out of the room to enlist other staff members into the role-play. This meant that it was difficult to keep him concentrated on the task, and the session was finished 30 minutes early with a relaxation exercise.

Session 5. John had forgotten about the session time and was planning to go to the movies. This meant that he struggled to focus on the session, and wanted to leave. The session focused on hypothetical problems and related to how negative feelings are related to problems and positive feelings are related to mastery over the environment. The use of STOP AND THINK was emphasized as a tool to help avoid negative consequences to a problem.

Sessions 6-9. During these sessions, the vocational support centre had begun the process of a relocation of premises. There was a lot of movement in the centre and things seemed rather disorganised. John seemed distracted during the sessions. He described how he had broken a window, in an angry response to a staff member's request. In order to define the problem in more detail, the incident was role-played twice, once illustrating what had actually happened, and again using the STOP AND THINK concept. During the role-play John was asked to explain how he was feeling, before, during and after the incident. He was asked to consider whether his feelings would have improved if he had used STOP AND THINK as a means of calming down, and then had spoken to the support worker about what had upset him. He was also asked to consider what others might have felt during and

⁴ Outward Bound is a New Zealand charitable trust that seeks to inspire personal and social development through value based experiential learning in an outdoor environment.

after he broke the window, to which he replied that they were “fine”. In the next session, the ‘broken window’ incident was reviewed, and discussed in terms of how at times a person may need help to solve a problem, but at other times a problem can be solved without any help (realistic self-advocacy). In response to this, John immediately telephoned his residential support worker to try and work out a plan for paying for the repair of the window. He seemed pleased with his progress and described how his flatmate had teased him and he had managed to ignore it and walk away. He was praised for his handling of the situation.

During the following two sessions John appeared very sleepy. When prompted, he described how he went to play the gaming machines with his flatmate and two support staff. At approximately 10 pm the flatmate wanted to go home but John did not, even though he had run out of money. The staff tried to encourage him into the car, and he responded to this by sitting down on the road and refusing to move. Only after much discussion with his support staff, and a phone-call to the care manager did he agree to go home. During the session, he described how irritated he felt because he was not allowed to stay. The aim of the session was to break complex problems into simpler subgoals, and through discussion John realised that the main reason he wanted to stay was to play the gaming machines, and that even if he had been able to stay it would not have been much fun without any money. It was then discussed how he could earn more money, and how he could stay out as long as he liked. Through further discussion he realised that it would not have been much fun staying out late without the company of his flatmate. The following week John described his unhappiness with not being allowed out to play pool in the evening, a consequence of his refusal to leave the gaming machines the previous week. He was asked to generate as many solutions to this problem as he could, and he answered that he would “try be good, listen to the staff, and stop breaking windows”.

Session 10. John seemed more positive in this session. He enjoyed the process of rating solutions for their effectiveness. A hypothetical problem was used to introduce John to decision making. He was asked to generate solutions for the problem “You have lost your money and you need to buy lunch”. Through this process he rated “trying to find the lost

money” higher, than “borrowing it” from some one, or “going to the police”. He had broken the coffee table at his home the previous week, and was concerned about how unhappy his flatmate had been over the incident, and had apologised to him. He had initiated a plan to build a new table, with help from support staff, demonstrating his willingness to solve his own problems.

Session 11. John had been problem-solving around how he could improve his work-skills towards acquiring a job of working in a kitchen. With help from his support workers he had formulated two goals, that is, to improve his concentration and personal hygiene. He decided to focus on the problem “improving concentration” during the session, and was asked to evaluate each solution for its effectiveness. Through discussion of the alternative solutions, he realised that he concentrates better when it is quiet, and when there are no distractions and talking. His support worker was enlisted to help him set this up. He was reminded that this was a problem he could solve on his own, and was encouraged to ask people to be quiet himself. Through modelling and role-play with the therapist, he practiced the skill of asking people to be quiet.

Session 12. In this session there was a focus on hypothetical problems relating to how others would feel if he chose a particular solution. John did not seem to understand that telling a staff member that he did not want to work with them, could possibly be hurtful. To demonstrate this, reversal role-play was used. He was asked how he felt and he indicated that he would feel a little sad if someone said that to him.

Session 13. John was dressed very smartly. He was looking forward to attending a cultural event after the session. He described how things were going well for him and that he had been controlling his anger by taking “time-out” or by finding someone to talk to. He had also been more assertive, that is, if he was not comfortable to talk to a certain staff member, he would ask to speak to someone else. He was enjoying his work at the vocational centre more, and believed that staff were happier to work with him.

Sessions 14 and 15. In these sessions John was asked to think about each step he would need to take towards moving towards a goal, beginning with a hypothetical problem and ending with a real problem. Previous to the session, he had been formulating a plan with his support worker on how to “stay dry” and “stop wetting himself” at the vocational centre. This example was used to examine the steps needed to move towards his goal of “staying dry”. These steps included going to the toilet every hour, and asking for help from support staff when necessary. He was asked to think about what he would do if was unsuccessful in reaching his goal, and what the consequences of that would be. He related how he would then ask to be taken home for a shower and change of clothes, and thereafter keep trying to “stay dry”. Both sessions ended with praise for being a good problem-solver.

Results

Social problem-solving skills. Using 50% change as the benchmark for clinical significance (as noted in the previous chapter) (Blanchard & Schwarz, 1988; Stravynski et al., 2000), *degree of effectiveness of solution* (C9) showed a 52% change before and after treatment (time one and time two), indicating clinically significant change (see Table 8). *Degree of autonomy of problem solving style* (C2) showed a 46% change, *number of statements (solutions and irrelevant responses)* (C3) showed a 44% of change, and *degree of social acceptability of solution* (C8) showed a 40 % change. There were no observed or clinically significant improvements in *problem definition* (C1), *number of irrelevant responses* (C5), *degree of comparative reasoning* (C6), *ability to justify the selected solution* (C7), and *number of relevant means to ends* (C11) (see Figure 1).

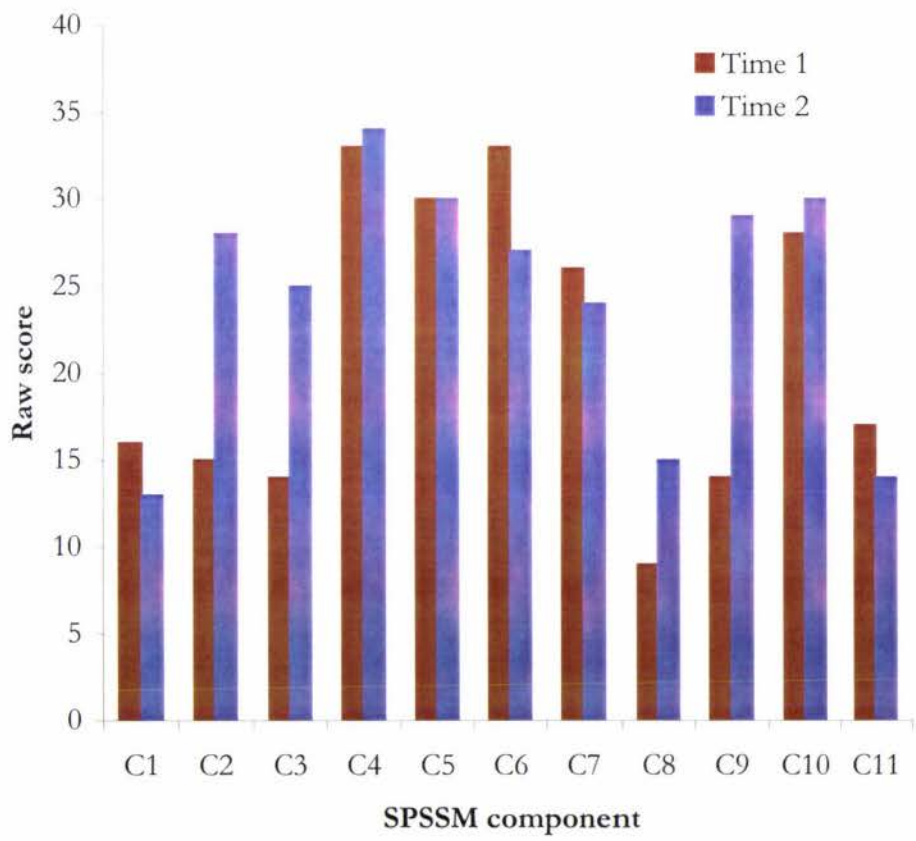


Figure 1. Raw scores of components from Social problem-solving skills measure (SPSSM), for Case 1.

Adaptive and maladaptive behaviour. Adaptive behaviour consisted of Factor A (Personal self-sufficiency), Factor B (Community self-sufficiency), and Factor C (Personal-social responsibility). Maladaptive behaviour consisted of Factor D (Social adjustment) and Factor E (Personal adjustment). Although there was an observed reduction in scores for Factors A, B, C, and E at time two (see Figure 2), this observed difference did not achieve the criteria for clinical significance (see Table 8). Factor D remained unchanged.

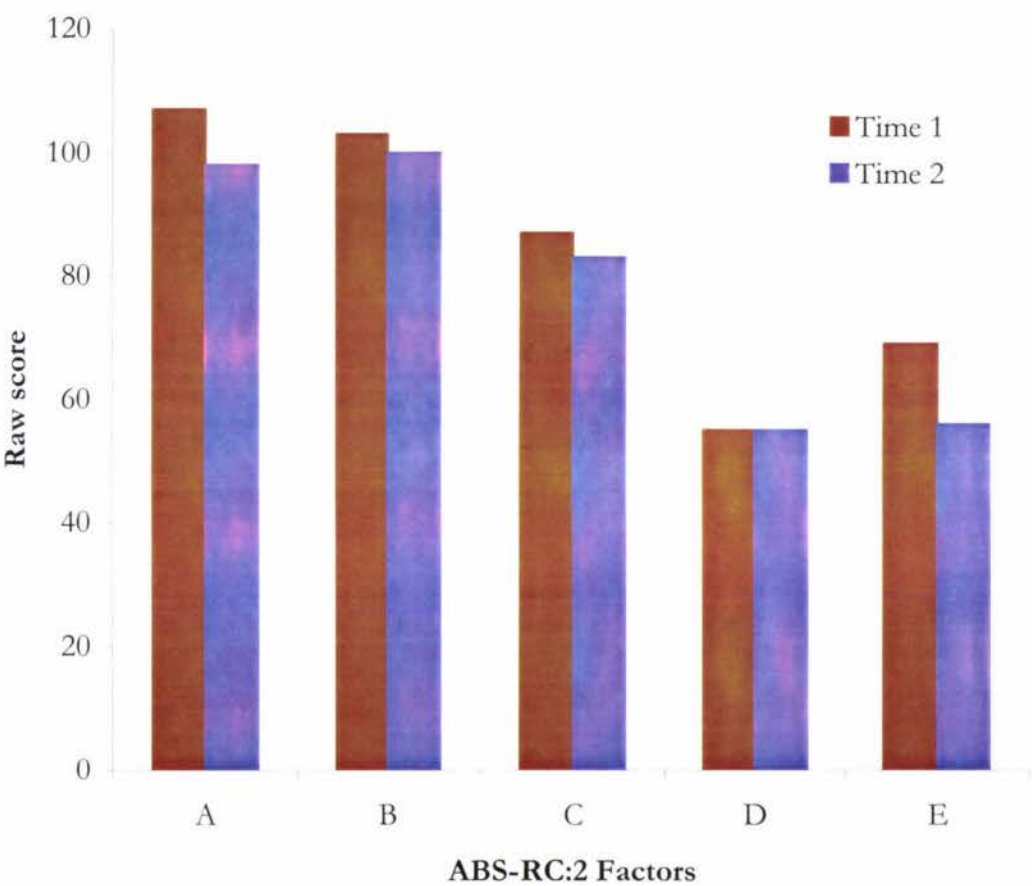


Figure 2. Raw scores of Adaptive behaviour (Factors A, B, & C) and Maladaptive behaviour (Factors D & E) from AAMR Adaptive Behavior Scale – Residential and Community, Second Edition (ABS-RC:2), for Case 1.

Psychological distress. There was a reduction of scores from baseline to pre-treatment (see Figure 3), and for this reason, percentage of change was calculated conservatively between pre-treatment and follow-up data (see Table 9). There was an observed improvement in scores for depression and anxiety, but this difference did not reach the criteria for clinically significant change. Self-esteem scores between pre-treatment and follow-up did not change. Depression showed the most improvement with a 40% change. Anxiety improved by 13%.

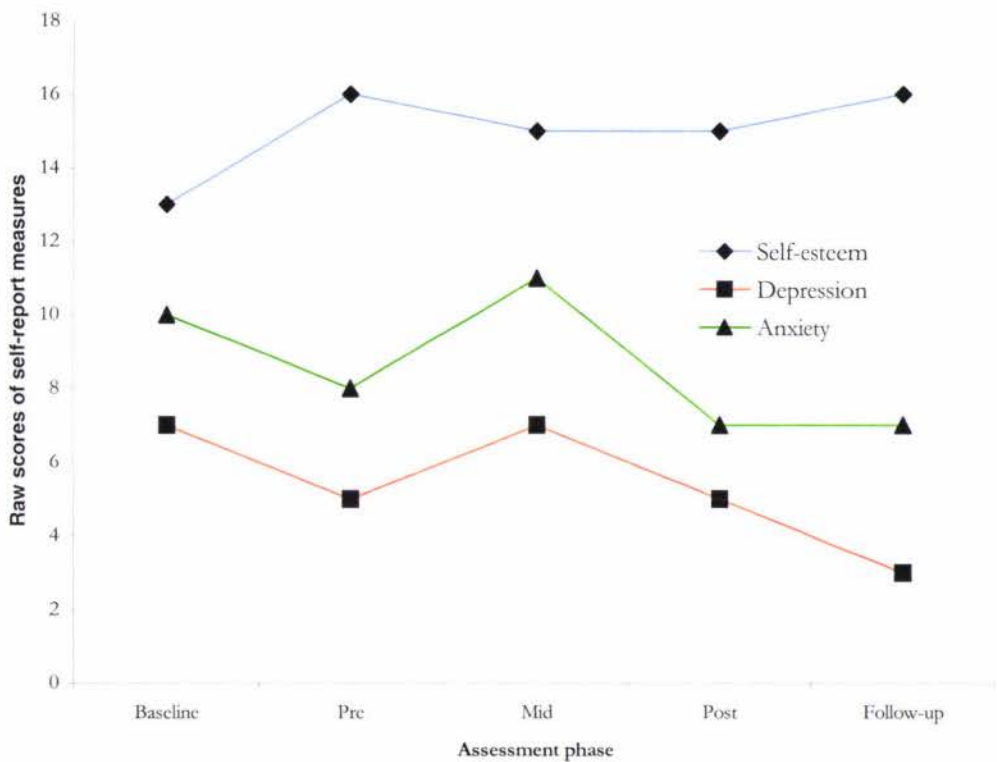


Figure 3. Raw scores of self-esteem, depression, and anxiety self-report measures, at baseline, pre-treatment, mid-treatment, post-treatment and follow-up assessment phases, for Case 1.

Case 2 (“Susan”)

Background information

Susan⁵ was a 39-year-old woman who in addition to a diagnosis of mild intellectual disability, suffered from symptoms of depression. She presented as a medium height, overweight woman, casually dressed with shoulder length brown hair. She had dentures but did not wear them. She was interactive, cooperative, and motivated towards the assessment and training. She described her mood as sad, and described how she had “very little to live for”. She complained of hearing persecutory voices from time to time, and attributed it to a period of time as an inpatient resident at Kingseat psychiatric hospital where she had received electro-convulsive therapy. During her adolescent years, she had a history of fire setting with convictions. In a previous service, about two years ago, she had assaulted a staff member as a response to the staff member looking through her things. This experience had made her fearful of becoming “angry and losing control”. As a result of this incident, she had attempted to cut her wrists and strangle herself with shoelaces around her neck. Since being part of the present service, she had attempted suicide twice by taking overdoses of medication, and had also sat on a busy road on one occasion. When discussing these episodes with her, Susan noted that they were precipitated by feeling of hopelessness, by believing that others were talking negatively about her, and by problems with maintaining her financial budget. She had a history of running away from her home, which had started at intermediate school and continued at various girls’ homes. This pattern had continued at her present residential home, but she had always returned home on her own accord. Susan had a daily medication regime of Acupril, Cogentin and Risperidone in the morning, and Risperidone, Nortriptyline, and Chlorpromazine at night. The vocational support service aimed to improve her self-esteem, to increase her social networks and natural supports, and to help her with budgeting.

⁵ Names and other identifying information have been changed to protect the participant’s identity

Treatment

Session 1. When asked to come up with some examples of problems, Susan described how she felt things were unfair when she had to do most of the housework at her shared residential home. She really enjoyed the relaxation exercise at the end of the session, and was able to get into a deep state of relaxation very quickly.

Session 2 - 3. When reviewing what she had practiced the previous week, Susan related how a child had walked into her room, and that it had upset her. She cried and then told staff about it. After further inquiry, she described how other children had teased her when she was at Intermediate school, and that she believed that the child who had recently walked into her room, came to spy and laugh at her. She described other problems such as finding it difficult to open the letterbox, being disturbed by loud music coming from her flatmate's room, and that there was no hot water left for her to shower. The concept of 'STOP AND THINK' was introduced as a means to helping her calm down and think of solutions to these problems. She practiced this in between sessions as it finding it a useful tool for calming her down, particularly when her flatmate irritated her. She described feeling irritated and then sad that morning. She was asked to describe what had happened just previous to her feelings of irritation, and she described her difficulty in tying her shoelaces. With further discussion, she revealed that her difficulty in tying her shoelaces was related to her being overweight (i.e., to the extent that her stomach hindered her ability to bend down), and that it was this that had made her sad afterwards. She was challenged to decide to continue feeling this way or to think of a solution to this problem (i.e., her weight gain). She decided that she would like to make some efforts into losing weight, and was encouraged to discuss this with her support worker.

Session 4 - 5. Susan presented for this session looking tired and unwell. She described feeling "in a bad space", but was unable to identify why she felt that way. She was introduced to concept that negative feelings, inefficient behaviour (when we fail to respond effectively) and negative social feedback can act as cues to the identification of a problem. Susan described how difficult it was for her to approach a staff member and speak to them about her negative feelings. Together with the therapist she role-played asking a staff member to

sit down and talk to her. There was further discussion on how negative feelings may indicate that there is a problem, and that positive feelings may tell us that we have control over her lives.

Session 6. Susan described her wish to resign from her consumer representative position. Using imaginal role-play, Susan was reminded of how she felt during her previous consumer representative meeting. She remembered how unsupported she felt by staff, how clients either did not attend the meeting, or walked out half way through, and how that made her feel frustrated and rejected. Through this process the problem was defined more clearly and Susan began to understand why she felt dissatisfied. She resolved to talk other consumer representatives and her key worker about the problem.

Session 7. Susan was very upset by an incident the previous week, and had been unhappy all week about it. She was required to attend a dual disability meeting and wanted a staff member to accompany her. She asked for help but was told she could manage on her own. This was very upsetting for her, as she felt she needed the support, but she was unable to express it to the staff member. With further discussion she realised that staff could have misunderstood her and not realised the significance of the meeting, and that if she had spoken to them about why she was upset, she may not be feeling as unhappy as she did. Susan also described how unhappy she was about the relocation of the vocational centre, especially as she felt that the new premises lacked in suitable toilet facilities and had too many stairs for her to manage.

Session 8 - 9. Susan's mood had improved and she was feeling more positive. She had resolved her issues with vocational staff and with her consumer representative position. Her primary presenting problem remained her weight gain, particularly for health reasons. She had been getting very breathless and was still having difficulty tying her shoelaces. She worked out some ideas on how she could achieve her goal of losing weight. Susan described how after she had received her bank statement in the mail and realised that she had overspent her budget, she decided to walk to the bank and draw what was remaining in her account and "just spend it". She walked towards the bank three times, but turned back

before getting there. In this way, she stopped herself from drawing money from her account and spending. She was praised for having the strength to stop spending. She also described how the previous night, in response to her concerns about money, she had “run away” from home, but returned after an hour. Through questioning, she related how she needed comfort and support to help her with her budget, but did not know how to ask for it. Through generating solutions, she realised that she could have asked for help from her support worker, or she could have rung her care-manager up for a chat. Susan also generated some solutions on how to pay her debt to the chemist back. She decided that she would start a fortnightly automatic payment to pay it off, and resolved to get it done that afternoon.

Session 10. Susan was in a positive mood. She had been attending the vocational centre and the supported factory workplace more regularly. She had practiced generating solutions related to how she could save money (“get someone to look after my bankcard for me”), and she had sorted out her debt with the chemist by organising the automatic payment. During the session she came up with some solutions for losing weight, and chose “drinking a lot of water” as the one she felt would be the most effective.

Session 11. Susan had been problem-solving on her own, regarding her budgeting. Through discussion with the therapist she realised that she tends to overspend when she is feeling “blue”. She generated solutions to this and decided that talking to someone and finding something interesting to do could help her feel better. She was proud that she had been able to purchase a CD player on lay-by, and was praised for her ability to save towards something she really wanted.

Session 12. Susan related how she had been getting a ride to work in a van, which was full of male clients. The driver was “playing the fool” and lifting his hands off the steering wheel. This made her feel unsafe and scared. She had been feeling “blue” all week as a result so this incident and did not want to go in the van anymore. She generated solutions to this problem and decided that she would like to talk to the driver about it, and if that did not work she would talk to management. She role-played what she would say to the driver and

felt confident about doing it. Susan was also concerned about a situation that had happened at her home. She had given her flatmate a message, which was misunderstood, and she felt responsible for her flatmate's distress. After generating solutions, role-play and modelling was used to practice talking to a distressed flatmate.

Session 13. Susan could not think of any problems she had for this session. Instead, she focused on hypothetical problems and examined the consequences of choosing a particular solution. After the session, she declined a ride home in a car full of male clients, and decided to take the bus home. In a previous session, she had related how uncomfortable she felt being in a car with male clients, and choosing a solution which would prevent her from feeling uncomfortable, gave the therapist a reason to praise her for effective problem-solving.

Session 14 - 15. Susan had been feeling concerned that a staff member had been spreading rumours about her. Through further discussion, she revealed that she had no idea what the rumour was about or whether it really happened. During the process of focussing on solutions she resolved to speak to the staff member about it. This action was role-played, and she was praised for attempting to sort out the problem herself rather than asking others to help. Susan was also asked to describe problems in which she had had success with problem solving. She was pleased with her ability to sort out the rides to work, and to taking steps towards making new friends. The session ended with praise for her problem-solving ability.

Results

Social problem-solving skills. Most components showed improvement, except for *degree of comparative reasoning (C6)*, *number of relevant pre-action thoughts (C10)*, and *number of relevant means to ends (C10)* (see Figure 4). There was no clinically significant change (see Table 8). *Degree of effectiveness of solution (C9)* showed the most improvement with a 47% change, although this did not reach the 50% change cut-off for clinical significance.

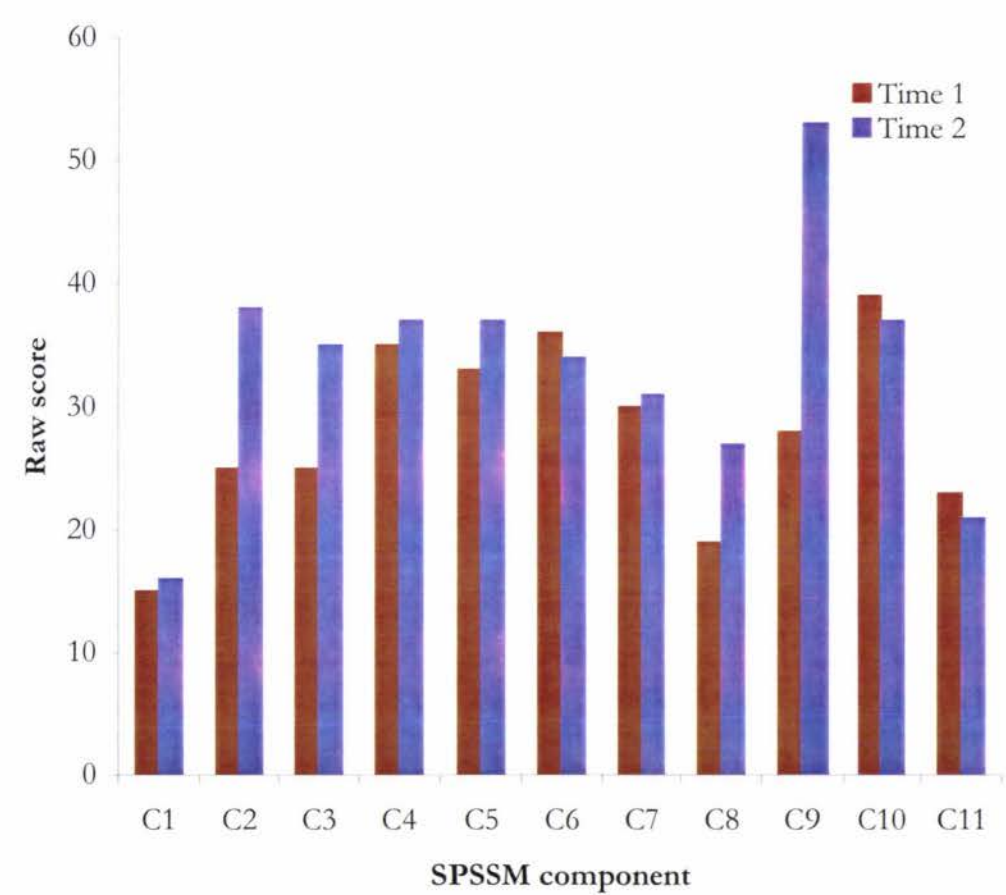


Figure 4. Raw scores of components from Social problem-solving skills measure (SPSSM), for Case 2.

Adaptive and maladaptive behaviour. All factors, with the exception of Factor A, showed improvement (see Figure 5). However, there was no clinically significant change between time one and time two for all factors (see Table 8). Personal-social responsibility (Factor C) showed the most improvement, with a 25% change.

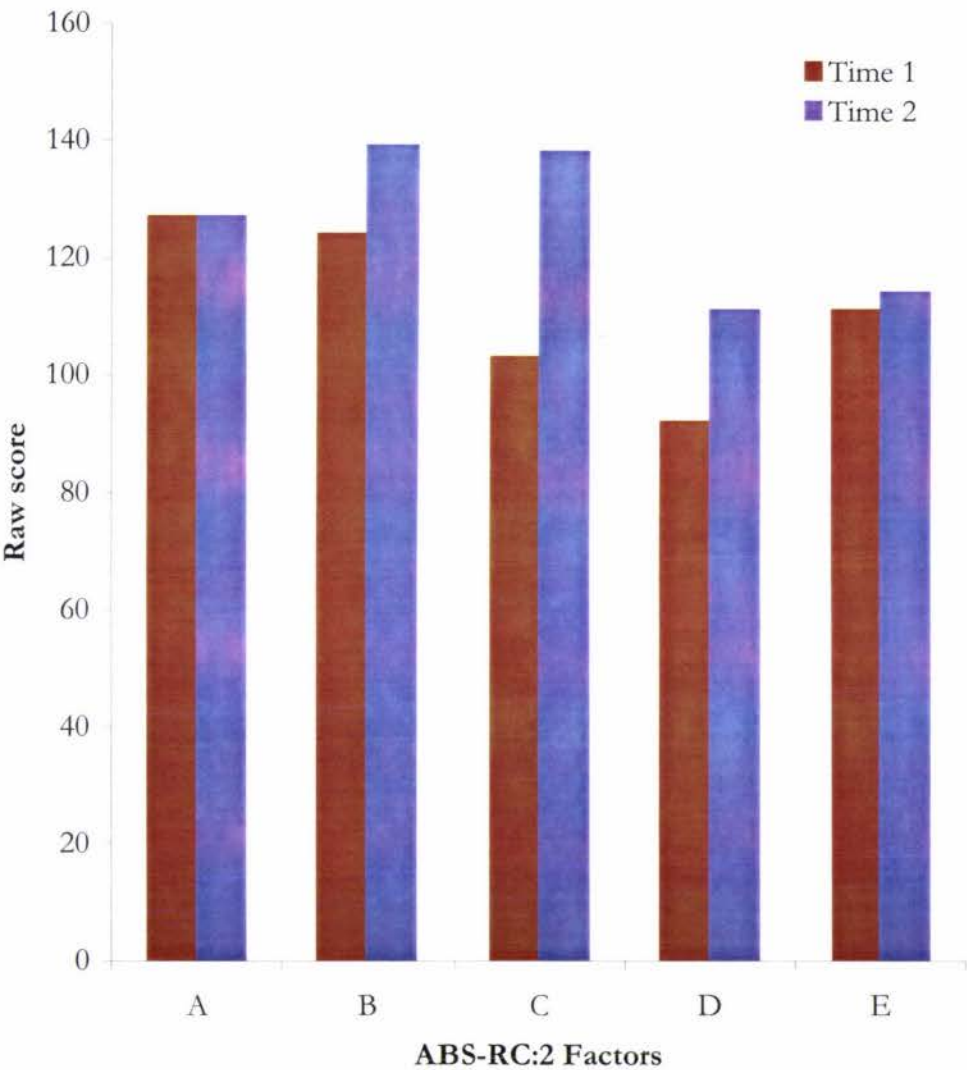


Figure 5. Raw scores of Adaptive behaviour (Factors A, B, & C) and Maladaptive behaviour (Factors D & E) from AAMR Adaptive Behavior Scale – Residential and Community, Second Edition (ABS-RC:2), for Case 2.

Psychological distress. Self-esteem and depression showed improvement (see Figure 6), but there was no clinically significant change in scores (see Table 9). Self-esteem peaked at post-treatment, but then dropped to one point above pre-treatment, at follow-up (10% improvement). Depression showed the most improvement between pre-treatment and follow-up (31% improvement). Anxiety increased from pre-treatment to follow-up (14% decline).

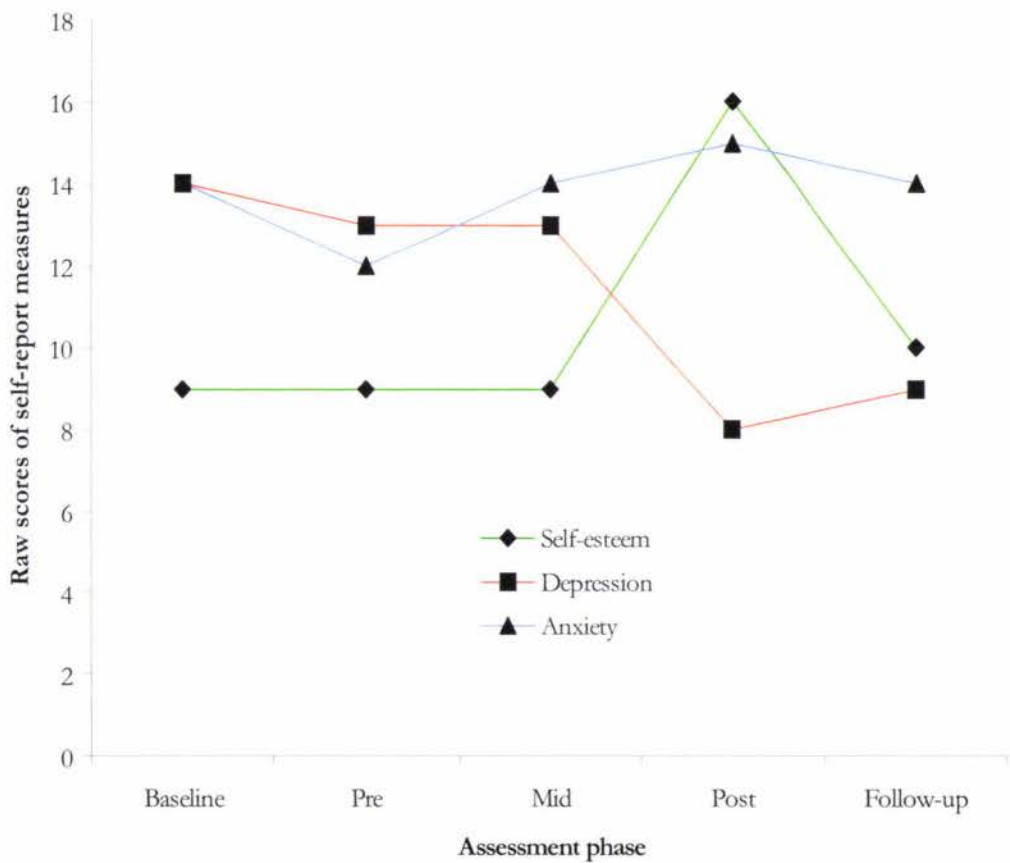


Figure 6. Raw scores of self-esteem, depression and anxiety self-report measures, at baseline, pre-treatment, mid-treatment, post-treatment and follow-up assessment phases, for Case 2.

Case 5 ("Chris")

Background information

Chris⁶ was a 53-year-old male, who in addition to mild intellectual disability had diet-controlled diabetes and a diagnosis of schizophrenia with predominantly negative symptoms. He presented as tall, overweight man with thinning hair and pale skin. He was initially difficult to engage as he appeared sleepy and disinterested, but when a topic was brought up in which he was interested, he became animated and talkative (e.g., when discussing travel). He was particularly interested in different countries and people around the world. During sessions, he would frequently change the conversation back to his interest in countries, and would need encouragement to get him back onto task. He showed ritualistic patterns of behaviour (i.e., repetitive hand movements and gestures and tapping of feet), diminished self-care (i.e., poor grooming), a flat emotional tone (i.e., lack of emotion in speech), social withdrawal and low motivation to engage in daily activities (e.g., he spent the majority of his time watching television, eating or sleeping). He had a history, prior to entering the service, of hitting himself on the head when frustrated, using obscene language and threats to kill other people. He also had a history of physically assaulting others, through pushing, grabbing, scratching and throwing furniture and objects. These incidents were infrequent but short and explosive, and were associated with pressure from staff to perform tasks. Since his entry to the vocational support service, he had had two such incidents within the year, related to his intense dislike of being asked repeatedly to complete a task (e.g., to get out of bed and have a shower). After the incident he was apologetic and remorseful. Over the last few years he had become increasingly difficult to engage in social and vocational activity. He had a sleep pattern in which he watched television until 2am and then only woke at 2pm. His medication regime consisted of Apo Ascorbic acid, Zantac, Inhibace Plus, Felodipin, Risperidone, Clopress, Zopiclone, Fluoxetine and Largactil. At the time of the pre-treatment assessment, the vocational support service had been unable to engage him in any daily activity, as he was often asleep

⁶ Names and other identifying information have been changed to protect the participant's identity

during the day and took too long to be ready in time to attend activities at the vocational support centre.

Treatment

Session 1. Chris was very sleepy during this session, even though the session time had been arranged for late in the afternoon. He became more alert and responsive when topics were discussed which were interesting to him, such as travel and foreign places. When first asked for examples of problems, Chris replied that he had no problems. But after further conversation, he described an incident when staff had “nagged” him to shower and then switched off the television. This upset him and he reacted by throwing a pillow at the staff member. He also disliked it when staff requested that he get up in the morning.

Session 2. It was difficult to keep Chris on task. He preferred to discuss the therapist’s foreign accent and the country she had emigrated from. The concept of STOP AND THINK was introduced, but he said that he did not need it, as he did not get upset at all. It was suggested that this concept could be used when he felt that staff were “nagging” him, and he was asked to practice the technique during the week. At the end of the session he did not want to participate in deep muscle relaxation, but preferred to only use a deep breathing technique.

Session 3 - 4. Chris explained how he had missed the IHC ball because he was unable to get ready in time. As a means of introducing feelings as a reaction to a situation requiring a solution, he was asked how he felt about missing the ball, and he said he was disappointed but did not feel too bad. He was also asked to consider feedback from others as a means of identifying a problem. He described how staff seemed upset that they had to stay behind with him, instead of joining the others for the ball. His disappointment at missing the ball, and his concern about staff, were identified as cues to help him identify the problem (i.e., his lateness). He was asked to think of some solutions to his lateness, so that this would not happen again. He decided that he would need to be reminded an hour before he needed to be ready, but that he did not want to be “nagged” or “hassled” thereafter. He was then

asked to consider how he could put this in place and he said that he would talk to the staff the night before so that they could remind him in time.

Session 5. In this session, Chris was asked to think about a time when he felt positive and happy. Chris remembered how much happier he felt when he had a job, and said that he would like to get out more and perhaps get some employment. There was further discussion about how he could get up earlier so that vocational staff could take him to visit a supported factory workshop of which he was interested. A plan was worked out so that he could be ready in time, and vocational support staff were asked to arrange transport and support him in this. He was asked to consider how he would feel if he managed to complete a day's work and he said that he would be very pleased with himself. The following week, Chris struggled to get out of bed and was an hour late for his session. The plan for getting to the supported workshop had not been successful. Chris had not reminded staff about it, and staff had not followed through with the process. Chris did not want to talk about any "real" problems, so there was a focus on defining a hypothetical problem in terms of interrelated problems.

Session 7. Chris was upset, as he had been involved in a quarrel with his flatmate. They had apologized and discussed the incident, but he remained upset by it. The incident was discussed in terms of how he could prevent the situation happening again without involving staff (self-advocacy). He decided that it might be best to keep away from his flatmate (e.g., retreat to his bedroom) when the flatmate showed signs of being upset.

Session 8. Chris spoke about his difficulties in getting up in the morning. With further discussion, he revealed how he felt he had nothing to look forward to, once he got up. He was asked to remember a time when he enjoyed getting up, and what it was that he looked forward to then. He remembered how, at his previous residential home, he had enjoyed playing darts and pool. This was discussed with the support staff so that they could organize a vehicle to get him to the recreational centre to play pool. Strategies for getting up in time were also discussed.

Session 9. Chris said he was in a bad mood, and explained how staff had insisted he switch his television off at midnight. He wanted to continue watching the rugby world cup, but staff wanted him to get to sleep earlier so that he was able to get up in the morning. Through generating alternative solutions, he decided to discuss this problem with his care manager, and to talk about it at the house meeting they were having that evening. Through further discussion he had a better understanding of why the staff wanted him to switch the television off (to go to sleep so that he could get up in the morning).

Session 10. Chris was annoyed because he believed that someone in the house had removed money from his wallet. After generating solutions, (i.e., talk to staff, or talk to suspected thief), he rated them for different criteria (e.g., safety, fairness, feelings, emotional wellbeing) and decided that talking to staff may be a better solution.

Session 11. Chris discussed how he had scratched and bitten a staff member after she had changed the television channel and then asked him to go and shave. He was remorseful about hurting her, but felt that it was very important for him to watch the weather. He was particularly interested in the weather of Australia and the Pacific Islands. After discussing what alternative solutions he could have used instead, he suggested that he could have explained to staff how important it was for him to watch the weather, he could have watched the weather during a later television broadcast, or he could have taken time-out and retreated to his bedroom to calm down. After evaluating these solutions for their effectiveness he decided talking to staff about how important it is for him to watch the weather might be the best solution. He also mentioned that the following week was the anniversary of his mother's death. He was willing to talk about his parents and how their death had affected him. He considered what his mother might think of him now, and said that she might think that he was "wasting his life away", and that it may be time for him to start "working" again.

Session 12. Chris was very pleased with himself. He had been managing to get up early every morning and had been attending regular activities at the vocational centre for the past week. The therapist asked him what he thought his mother would be thinking now and he

replied that he thought she would be pleased and proud of him. This and the fact that support staff at his residential home had been providing a cooked breakfast for him, was giving him the incentive to get up in the morning. He had no other problems to relate, and time was taken to discuss how his ability to get up early in the morning and his attendance at the vocational centre, had been received positively by others. He was praised for his ability to solve this problem and make the changes by himself.

Session 13. Chris explained how his burning ulcer had been bothering him and that this stopped him from working as long as he would like to. He came up with the following solutions – sit and rest, eat yoghurt or stick to a bland diet. He examined the consequences of each solution and decided that to sit and rest may be the best.

Session 14 - 15. Chris was upset due to an incident he had that morning. Another client had punched him in the nose and bit him. He was quite shaken and angry with the client, and felt that there should be consequences. Solutions were discussed and he decided he would like an apology from the other client. A step-by-step strategy was discussed to help him move towards his goal of receiving an apology. This involved enlisting the help of staff to arrange the apology. By the next session, Chris had resolved the incident from the previous week and had received his apology. He was asked to reflect on problems, which he had successfully solved (e.g., getting up in the morning and arranging an apology) and praised for his positive problem-solving.

Results

Social problem-solving skills. All components showed improvement, except for *degree of justification of the solution (C7)*, and *number of relevant means to ends (C11)* (see Figure 7). There was clinically significant change of 70% and 57% for *degree of social acceptability of solution (C8)* and *degree of effectiveness of solution (C9)*, respectively (see Table 8). Both degree of autonomy of problem solving style (C2) and *number of statements (solutions and irrelevant responses) (C3)* showed a 48% change, although this did not reach the 50% change cut-off for clinical significance.

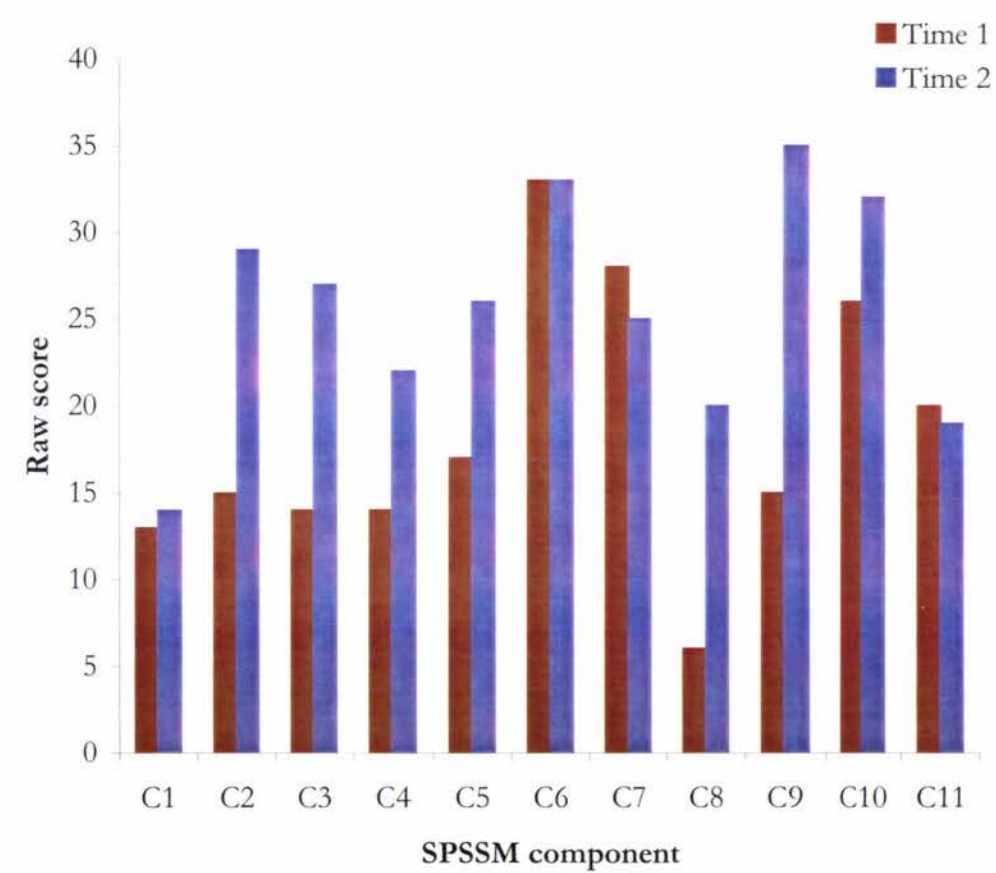


Figure 7. Raw scores of components from Social problem-solving skills measure (SPSSM), for Case 5

Adaptive and maladaptive behaviour. With the exception of Social adjustment (Factor D), all remaining factors showed slight observed improvement (see Figure 8). Despite these observed changes, there was no clinically significant change between time one and time two for all factors (see Table 8).

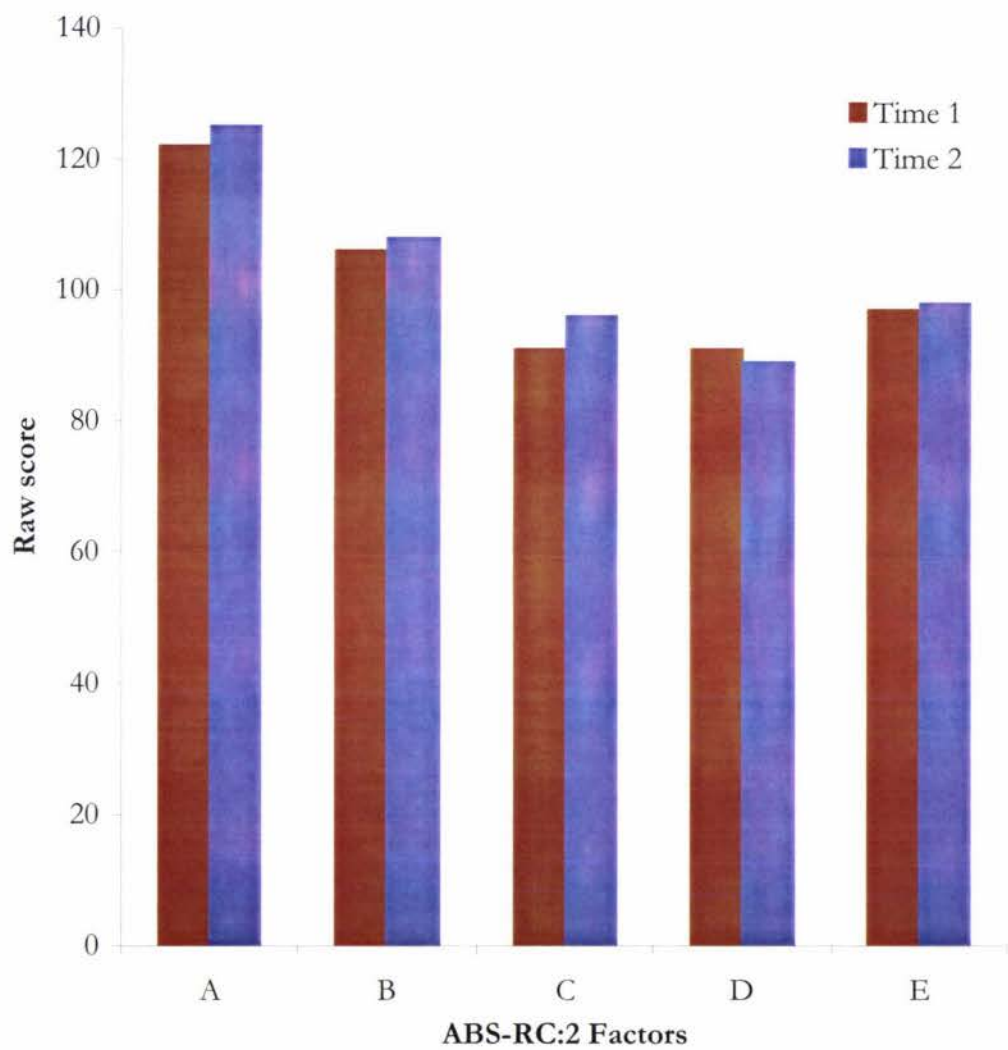


Figure 8. Raw scores of Adaptive behaviour (Factors A, B, & C) and Maladaptive behaviour (Factors D & E) from AAMR Adaptive Behavior Scale – Residential and Community, Second Edition (ABS-RC:2), for Case 5.

Psychological distress. Self-esteem, depression and anxiety showed no observed (see Figure 9) or clinically significant change from pre-treatment to follow-up (see Table 9). Depression peaked at mid-treatment, but then dropped to pre-treatment scores, at follow-up.

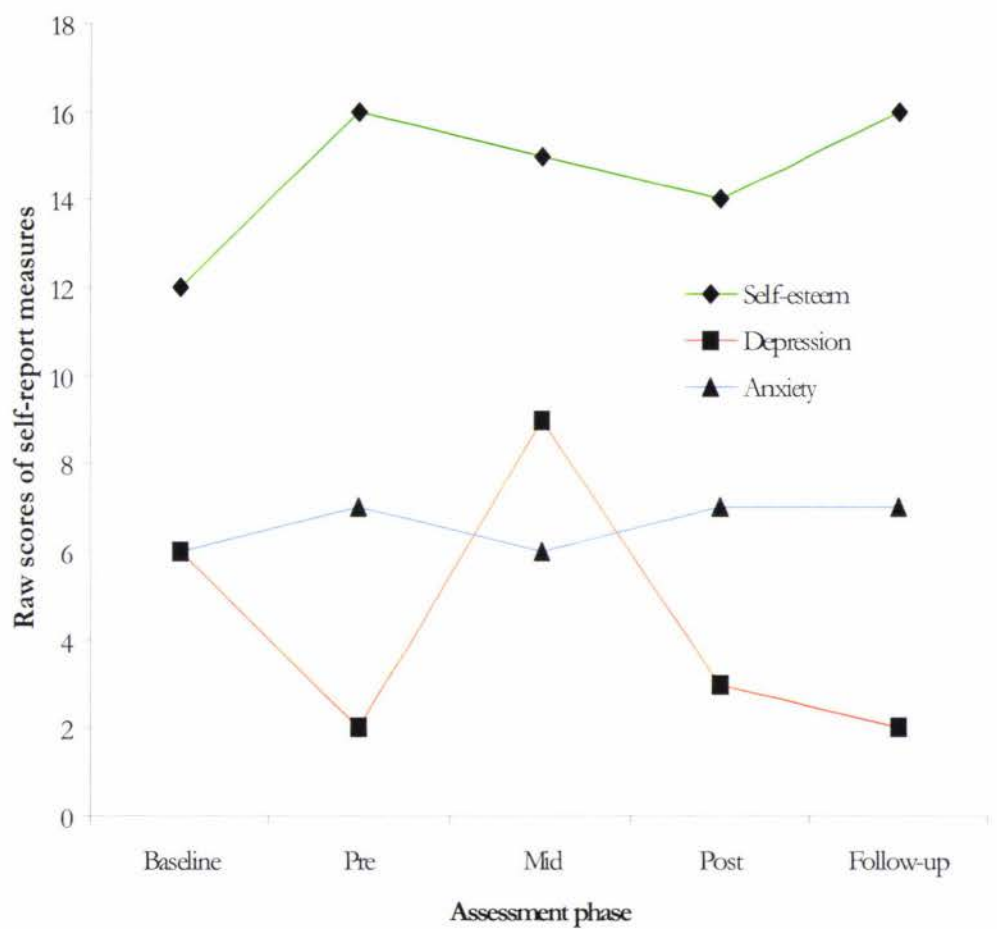


Figure 9. Raw scores of self-esteem, depression and anxiety self-report measures, at baseline, pre-treatment, mid-treatment, post-treatment and follow-up assessment phases, for Case 5.

Consistency across cases

Social problem-solving skills. All three participants reached noticeable change in *degree of autonomy of problem solving style (C2)*, *number of statements (solutions and irrelevant responses) (C3)*, *degree of social acceptability of solution (C8)*, and *degree of effectiveness of solution (C9)*. Although these scores were not all clinically significant, they were high in comparison to other components within the measure (see Table 8). For *degree of effectiveness of solution (C9)* the scores were clinically significant (at least 50% change) for two participants, with the third participant reaching a 47% change. For all remaining components, there was a low percentage of change for all three participants. In particular, scores on *degree of comparative reasoning (C6)*, *degree of justification of solution (C7)*, *number of relevant pre-action thoughts (C10)*, and *number of relevant means to ends (C11)* were consistently low for all three participants.

Adaptive and maladaptive behaviour. For all three participants there was a low percentage of change for all factors (see Table 8).

Self esteem. For all three participants there was either no change or a low percentage of change when conservative comparisons were made between pre-treatment and follow-up (see Table 9). However, when considering the largest change between phases for Case 1, there was an 18% change between baseline and follow-up score. For Case 2, there was a 43% change between baseline and post-treatment score, and finally, for Case 5, there was a 25% change between baseline and follow-up score, and between baseline and pre-treatment score. All three participants showed improvement in self-esteem scores from baseline to follow-up.

Depression. When conservative comparisons were made between pre-treatment and follow-up, two participants (Case 1 and 2) showed a noticeable improvement in depression scores, although these scores did not reach clinical significance, and Case 5 showed no change in score from pre-treatment to follow-up (see Table 9). When considering change between baseline and follow-up, however, all three participants showed improvement, with Case 1 showing a 57% change, Case 2 showing a 35% change, and Case 5 showing a 66% change.

Anxiety. When conservative comparisons were made between pre-treatment and follow-up, all three participants showed no change or a low percentage of change (see Table 9). Alternatively, changes between baseline and follow-up, showed similar results (i.e., Case 1 showed a 30% improvement, Case 2 showed no change, and Case 5 showed a 14% decline).

Homework compliance. When comparing the data, no clear patterns emerged for the participants (see Table 10). Case 1 generally completed the homework, although there was no clear pattern until session eight, when as the difficulty of the homework assignment increased, quality and quantity of compliance decreased. Case 2 showed inconsistent homework completion with all three variables showing fluctuation over sessions, and no real trend emerging. Case 5 generally did not complete the homework and rated all three variables as nil for all sessions, until session 15, where difficulty was rated as *somewhat hard*.

Table 8

Individual outcome and percentage of change for Social Problem Solving Skills Measure (SPSSM) and Adaptive Behavior Scale (ABS)

	Case 1			Case 2			Case 5		
	Time 1	Time 2	% change	Time 1	Time 2	% change	Time 1	Time 2	% change
SPSSM									
C1	16	13	-0.18	15	16	0.06	13	14	0.07
C2	15	28	0.46	25	38	0.34	15	29	0.48
C3	14	25	0.44	25	35	0.28	14	27	0.48
C4	33	34	0.20	35	37	0.05	14	22	0.36
C5	30	30	0.00	33	37	0.10	17	26	0.34
C6	33	27	-0.18	36	34	-0.05	33	33	0.00
C7	26	24	-0.07	30	31	0.03	28	25	-0.10
C8	09	15	0.40	19	27	0.29	06	20	0.70
C9	14	29	0.51	28	53	0.47	15	35	0.57
C10	28	30	0.06	39	37	-0.05	26	32	0.18
C11	17	14	-0.17	23	21	-0.08	20	19	-0.05
ABS									
A	107	98	-0.08	127	127	0.00	122	125	0.02
B	103	100	-0.02	124	139	0.10	106	108	0.01
C	87	83	-0.04	103	138	0.25	91	96	0.05
D	55	55	0.00	92	111	0.17	91	89	-0.02
E	69	56	-0.18	111	114	0.02	97	98	0.01

Note % change represents change at time 2 (after treatment) relative to time 1 (before treatment). Figures in bold face font have achieved clinical significance (cut-off at 0.50 % change). C1=problem definition; C2=degree of autonomy; C3=number of statements; C4=number of alternative solutions; C5=number of irrelevant responses; C6=degree of comparative reasoning; C7=degree of justification; C8=degree of social acceptability; C9=degree of effectiveness; C10=number of relevant pre-action thoughts; C11=number of relevant means to ends; C12=degree of realism of all means to ends; A=personal self-sufficiency; B=community self-sufficiency; C=personal-social responsibility; D=social adjustment; E=personal adjustment.

Table 9

Measures of psychological distress and percentage of change from pre-treatment to follow-up.

Phases		Variables		
		Self-esteem	Depression	Anxiety
Case 1	Baseline	13	07	10
	Pre	16	05	08
	Mid	15	07	11
	Post	15	05	07
	Follow-up	16	03	07
	% change	0.00	0.40	0.13
Case 2	Baseline	09	14	14
	Pre	09	13	12
	Mid	09	13	14
	Post	16	08	15
	Follow-up	10	09	14
	% change	0.10	0.31	-0.14
Case 5	Baseline	12	06	06
	Pre	16	02	07
	Mid	15	09	06
	Post	14	03	07
	Follow-up	16	02	07
	% change	0.00	0.00	0.00

Table 10

Self-report scores for quantity (A) and quality (B) of homework compliance, and difficulty (C) of homework task for each session

	Case 1			Case 2			Case 3		
	A	B	C	A	B	C	A	B	C
Session 2	5	5	1	1	1	3	1	1	1
3	4	3	4	4	3	1	1	1	1
4	3	3	1	2	2	2	1	1	1
5	3	5	3	2	1	2	1	1	1
6	3	3	3	1	1	2	1	1	1
7	3	4	1	2	2	2	1	1	1
8	3	3	3	2	2	1	1	1	1
9	3	3	2	1	1	2	1	1	1
10	5	5	1	3	3	1	1	1	1
11	5	5	1	2	3	2	1	1	1
12	3	5	1	1	1	1	1	1	1
13	3	3	1	3	3	1	1	1	1
14	3	3	2	2	2	2	1	1	1
15	3	3	2	3	3	1	1	1	2

Note 1 = nil quantity, poor quality, low difficulty; 5 = high quantity, high quality, high difficulty.

CHAPTER 8: DISCUSSION

The present study sought to provide case study data on whether social problem-solving training could improve social problem-solving skills and behaviour in adults with mild intellectual disability. In addition, the study examined whether social problem-solving skills training could decrease psychological distress (i.e., low self-esteem, anxiety and depression) in adults with mild intellectual disability. On the whole, it was difficult to provide any robust data to provide evidence of the effectiveness of training in the improvement of behaviour, self-esteem, and anxiety in the present study. However, there was some observed benefit and clinically significant improvement in social problem-solving skills. In addition, although depression results did not reach cut-off criteria for clinical significance, there was improvement for two out of the three participants.

Effect of training on social problem-solving skill

The results in the present study suggest that social problem-solving training can improve certain components of social problem-solving skills, in particular the effectiveness of a solution, the social acceptability of solutions and the total number of statements made in response to a problem. All three cases showed an observed improvement in the effectiveness of a solution, but only case one and five reached clinical significance (as defined by the cut-off of 50% change) (Blanchard & Andrasik, 1985). In the Loumidis (1993) study, the trained groups showed statistical significant improvement in the effectiveness of a solution in the community group, but not the hospital based group. The author notes that the hospital group was on average older and less intellectually able than the community group, suggesting that age and intellectual ability are factors that could enhance social problem-solving skills training.

All three cases showed observed improvement in the social acceptability of the solution, with Case 5 reaching clinical significance. Similarly, all three cases showed observed improvement in the degree of autonomy and the total number of statements made in

response to a problem. The results of the present multiple-case study were inconsistent with prior research. That is, the Loumidis (1993) study did not show any statistical significant improvement in degree of autonomy or social acceptability of solution, and showed a statistically significant decrease in number of statements. Loumidis (1993) suggests that little change occurred in social acceptability of solutions, because pre-training scores were already high. In the present study, Case 2 had pre-treatment scores that were higher on average to those of the other two participants, which may explain the lower degree of change for Case 2.

In summary, there is some evidence that social problem-solving training improved effectiveness of solution for two participants (i.e., Case 1 and 5) and social acceptability of solutions for the third participant (i.e. Case 5). There is also noticeable change for total number of statements made in response to a problem for Case 1 and 5, but no real evidence that the training improved overall 'ends-thinking' (i.e., the number of alternative solutions generated in response to solutions). Previous studies have found that social problem-solving training improved 'ends-thinking' for individuals with mild and moderate intellectual disability (Castles & Glass, 1986), and also improved the degree of effectiveness of solutions, the number of relevant means to attain end, and the number of relevant pre-action thoughts for individuals with mild intellectual disability (Loumidis, 1993).

Effect of training on adaptive and maladaptive behaviour

For all three cases there was no clinically significant change in adaptive or maladaptive behaviour, suggesting that social problem-solving training made little impact on behaviour for these participants. These results are similar to the Castles and Glass (1986) study in which training had no effect on maladaptive behaviour. Although the Nezu et al. (1991) study found an improvement in maladaptive behaviour, social problem-solving training was given in combination with assertiveness training, and therefore it is difficult to make assumptions that improvement was due to social problem-solving training alone. In the Loumidis (1993) study, maladaptive behaviour significantly improved for the community group, but not for the hospital group. The study provides no explanation for this difference, but suggests that there may be individual differences between the community

trained group, the hospital trained group, and the untrained control, which were not assessed.

Although there was no evidence of measured clinically significant change in behaviour, staff at the community centre had noticed behavioural change in these individuals, and had noted these changes in the progress notes for all three participants. Case2 ("Susan") who had previously struggled to talk about her concerns to staff and who reacted to problems by withdrawing, becoming suicidal, or 'running away', was now more inclined to approach staff for help. Case 5 ("Chris") who had previously spent most of his day in bed, was now attending and participating in activities at the vocational centre on a regular basis. It is possible that these behavioural changes may not have been reflected in the ABS scale because different support workers had completed the scale before and after training. Support workers completing the scale, may have different degrees of experience, and may have biases, tolerances and expectations, which may be different to another (Nihiri et al., 1993). However, caution should be taken when considering this, as the scale has high inter-scorer reliability when used by trained graduates (Carey, 1994; Nezu et al., 1991), and therefore, should not be sensitive to individual raters perceptions. In addition, it is possible that the changes in behaviour noted in the progress notes were not reflected in the results of the ABS scale because the scale covered many areas of functioning and was fairly extensive. Case 1 ("John") showed a slight decrease in adaptive and maladaptive behaviour, although these scores did not reach clinical significance. Staff confirmed, however, that the participant's behaviour had deteriorated, and suggested that this was very likely a response to a change of support worker at the participant's residence, three changes of support workers at the vocational centre, and the geographic relocation of the vocational centre since the commencement of the training.

In summary, there is no measured evidence that social problem-solving training improved adaptive and maladaptive behaviour for all three participants. However, despite this lack of conclusive evidence, support staff had recorded improved behaviour for two participants. Measured change for the third participant showed a worsening of behaviour. This was

confirmed by support staff, who suggested that environmental changes could have attributed to the change.

Effect of training on psychological distress

Self-esteem showed none or very little change from pre-treatment to follow-up for all three cases. This indicates that social problem-solving training had little impact on self-esteem. An explanation for the lack of change could be that the stability of self-esteem is such that long-term treatment is required before change will occur. A previous study in which cognitive behavioural anger management was given to a small sample ($N = 5$) of individuals with mild intellectual disability produced similar results (Howells, Roger, & Wilcock, 2000). In the Howells et al. (2000) study, training included an element of social problem-solving and was given over 12 sessions. Self-report data showed no change in self-esteem or anxiety, although the authors felt encouraged by the positive evaluation of the clients for the course, in particular their interest in repeated practice and role-play. This feedback from clients encouraged the authors to repeat the course with other groups. A second study ($N = 205$) examining the relationship between self-esteem, social problem-solving ability and aggression in college students found that low self-esteem and social problem-solving ability were significantly related to aggression (D’Zurilla et al., 2003). The study suggests that future interventions should include goals of improving self-esteem as well as social problem-solving. This also implies that change in maladaptive behaviour may only be possible after an improvement in self-esteem. Self-esteem, within a cognitive framework, is considered to be a learned negative core belief of ones self, which is generally resistant to change (Fennell, 1998). Changing rigid core beliefs of the self require more schema focused work, and a need for persistence when change is slow (Fennell, 1998). Social problem-solving training may be modifying peripheral beliefs leading to temporary reduction of distress, but change in core beliefs, such as a sense of self worth, may not be addressed (Safran et al., 1998). Even though participants may have improved social problem-solving skills, these skills need to be reflected in perceived coping and competence when comparisons of the self are made with others, in order to facilitate change in global negative views of the self (Dagnan & Sandhu, 1999; D’Zurilla et al., 2003). Allowing a longer timeframe for the present study may have facilitated participants’ self-belief in their

competence and ability to cope, allowing change in core beliefs of self worth and leading to improved self-esteem. In addition, there was change in self-esteem scores between baseline and pre-treatment, leading to an unstable baseline and difficulty in distinguishing between the effects of treatment and other unmeasured factors.

Depression showed improvement for Case 1 and Case 2. Of the three psychological constructs measured (i.e., anxiety, self-esteem, and depression), depression showed the highest percentage of change. There are certain components within social problem-solving training, which follow the cognitive behavioural therapy model for the treatment of depression, that is, establishing a relationship between thoughts, feelings and behaviour, generating and evaluating solutions, and learning basic cognitive skills towards successful problem-solving (Loumidis, 1997; D'Zurilla & Nezu, 1999). Behavioural components included role-plays, modelling, and social reinforcement. The relationship between antecedents and consequences were also addressed, and individuals were encouraged to identify the causes of their negative feelings and behaviour (Loumidis, 1997). All these components may have contributed towards the improvement in depression in the present study.

Previous research has indicated that depression is associated with low self-esteem in individuals with intellectual disability (Dagnan & Sandhu, 1999). The cognitive model of low self-esteem suggests that global negative self-judgement leads to situations in which the individual judges him or herself as not achieving a standard of self-worth and leading to depression (Andrews & Brown, 1995; Fennell, 1998).

Case 5 showed no change in the measurement of psychological constructs (i.e., self-esteem, depression, and anxiety) and yet support staff reported positive change in his behaviour (i.e., instead of sleeping all day, he was attending activities at the vocational centre). One strong possibility for this lack of data on measures of change could be that the participant had a tendency to answer self-reports in a similar manner, indicating a possible response set. This is a well-documented problem of self-reporting with individuals with intellectual disability (Reed, 1997). In addition, participants may be wary of reporting symptoms for

which they have previously received criticism (Bramston & Fogarty, 2000). These two points indicate that conclusions from self-reports of psychological distress should be taken with caution for all participants, and offer a likely explanation for the lack of measured change for Case 5.

Anxiety reduced for Case 1 and 2, but there was no change for Case 5. Participants were seen in a setting where there was frequent change of support workers and there was a geographic relocation of the centre. Support staff reported how Case 1 appeared unsettled by the move and noted how his behaviour had deteriorated. In addition, Case 2 expressed her concern and dissatisfaction with the new premises. Case 5 was the least affected by the move, as he was rarely at the vocational centre, but he was indirectly affected by the unsettled behaviour of his flat-mate (Case 4), who found the noise and movement at the centre disturbing. Case 4 decided not to continue with training after session nine. These factors may have increased anxiety for all participants, particularly from session eight, from which time the centre began relocating and mid-treatment data was collected. The collection of follow-up data occurred during the Christmas period, during which time all three participants may have been experiencing a certain amount of anxiety and loneliness, due to changes in routine at the vocational centre, and a possible sense of loss at being separate from their families. Previous to their admission to the centre, Case 1 and 2 had been living with their families, and this was their second Christmas away from them. Case 5 was experiencing his first Christmas at this particular residential home and vocational centre.

In summary, social problem-solving training did not show any improvement in self-esteem as measured by the Adapted Rosenberg Self-Esteem Scale (Dagnan & Sandhu, 1999), and showed only minimal improvement in anxiety, as measured by the Adapted Zung Anxiety Inventory (Lindsay & Michie, 1988). The improvement in depression measured by the Adapted Zung Depression Scale (Reiss & Benson, 1985) was more evident for two out of the three cases. A previous study (Nezu et al., 1991) investigated the effect of social problem solving training in combination with assertiveness training on psychological distress for this population. The Nezu et al. (1991) study reported that self-report measures

of psychological distress showed improvement, but unfortunately did not specify which psychological constructs were measured. In conclusion, the promising results from the Nezu et al. (1991) study, and the results from the present study, provide preliminary evidence that social problem-solving training could be an effective intervention tool for the treatment of psychological distress in individuals with mild intellectual disability.

Homework compliance

Although previous studies for this population have included the setting and review of homework within sessions for the treatment of anxiety and depression (i.e., Lindsay et al., 1993; Lindsay et al., 1997) and for social problem-solving training (Loumidis, 1993), no prior research has examined specific ratings of homework compliance within this population. Given the continual application of behavioural and cognitive therapies for this population, it is important that further work should examine homework compliance, since it is an essential component and an important factor for promoting change within behavioural and cognitive therapies (Kazantzis et al., 2000; Persons, 1989). In addition, the practice of homework reinforces what has been learned in therapy, and therefore assists the generalisation of skills learned in therapy to situations in real-life (Kazantzis & Lampropoulos, 2002b).

Participants in the study were often unable to conceptualise what the consequences of certain actions would be, and their lack of interest in action and change was frequently limited to what was happening in session. Consequently, although homework was set and reviewed at each session, encouraging between session tasks was difficult, and the lack of practise of new skills may have meant that learning did not reach its full potential. Similarly, in the Loumidis (1993) study, although homework was occasionally set, the study reports that it was rarely completed.

The present study showed no real trend or pattern of homework compliance emerging in participants. However, the benefit of using a homework compliance self-report enabled the level of between session activities to be determined as relatively consistent among cases. A second benefit was that by including a systematic review of homework compliance,

participants were encouraged to think about practicing between sessions. In the Loumidis (1993) study only occasional homework was assigned, and the author noted that in most cases only a small number of participants, and the most able, completed the homework. In the present study, the actual amount of between session activities was difficult to verify, as confidentiality issues prevented discussion with support staff at the vocational centre and at their residential homes. Of all three participants, Case 5 was the hardest to involve in between session tasks and this is reflected in his ratings of the homework compliance measure. Case 1 and 2 showed interest in completing the tasks when they were discussed during sessions, but did not always complete them between sessions.

Is cognitive behavioural therapy suitable for this population?

Behavioural interventions often come before cognitive interventions and are an essential component of the cognitive behavioural model. Behavioural interventions used during social problem-solving training were, examining the relationship between antecedents, beliefs and consequences, role-play and modelling, positive reinforcement and relaxation exercises. Behavioural intervention as a treatment on its own has been effective in reducing maladaptive behaviour and anxiety in this population. (Evans & Berryman, 1998; Hatton, 2002; Morrison & Lindsay, 1997). This suggests that the behavioural component within social problem-solving training, could be an important factor towards the reported behavioural improvement for Case 2 and 5.

An important element towards an individual understanding the cognitive model is that the person needs to understand the ABC link, that is, the link between the antecedent (A), belief (B) and emotional and behavioural consequence (C) (Dagnan, Chadwick & Proudlove, 2000; Persons, 1989). Within the social problem-solving training provision was made to enable participants to understand the link between antecedents, emotions and behavioural consequences (A and C). During the sessions participants appeared to understand this link well, especially when they were related to problems they had recently experienced between sessions. There was no provision, however, within social problem-solving training for this population, to teach the link between antecedents and beliefs (A and B). Individuals with intellectual disability find this link more difficult to understand,

and understanding this may be an important skill, before more assimilation of cognitive change is possible (Dagnan et al., 2000).

The cognitive-behavioural model hypothesizes that changing negative thoughts and maladaptive behaviour to those that are more adaptive, should improve mood and modify maladaptive beliefs (Persons et al., 2001). Cognitive behavioural therapy has been used to treat anxiety and depression in individuals with intellectual disability (Lindsay et al., 1993; Lindsay et al., 1997), but no work has attempted to modify core beliefs. Specific procedures in these studies were simplified and adapted, but main elements such as setting an agenda, review of homework, eliciting and challenging negative thoughts, examining and challenging dysfunctional beliefs, and role play were all used during therapy. In the present study, during the process of social problem-solving training, participants learned more adaptive thought processes, and in Case 2 and 5, translated these skills into improved behaviour and depression. If this cognitive-behavioural process was continued, there is a possibility that further change in mood and self-esteem may have been possible.

Previous studies have found that individuals have difficulty in recognising and expressing basic emotions such as happy or sad (Reed, 1997; Sternfert Kroese, 1997). In the present study it was evident that, with prompts and encouragement, participants were able to follow the concepts of identifying thoughts and relating them to their feelings and behaviour during the training. In addition, this ability to recognise their own cognitions and feelings meant that they could follow and understand the questions in the self-reports. What appeared particularly difficult for them, however, was to understand or recognise feelings in others, and this meant that they had difficulty in recognising the consequences of their behaviour. For example, Case 1 showed little understanding that breaking a window may be upsetting to staff or other clients and when Case 2 was confronted with a situation where she felt misunderstood, she misinterpreted the actions and motives of others. That is, when a child walked into her room, she believed the child wanted to spy on her, and on a separate occasion when her request for support was ignored by staff, she was unable to consider any reasons for the refusal.

An important aspect of cognitive behavioural therapy is the therapeutic relationship. A warm, genuine and empathic relationship can improve outcome (Beck, Rush, Shaw, & Emery, 1979). Individuals with intellectual disability may have experienced negative reactions or rejection from caregivers or mental health professionals in the past, and this may make the trust, rapport and collaboration difficult to establish within the client therapist relationship (Sternfert Kroese, 1997). In the present study, the therapist was able to develop good rapport and a working relationship with the participants, indicating that possible negative experiences in the past with previous mental health professionals had little impact on the present relationship.

Limitations of the single-case research design

The single case study design has been commonly used to evaluate the outcome of interventions within clinical and applied psychology. Applying internal validity criteria to the case-study can allow the researcher to rule out any other cause of change, but may be quite difficult to apply (Kratochwill, 1992). These internal validity strategies include the use of objective data sources, continuous assessment, focus on stable problems, the demonstration of large treatment effects and the study of many heterogeneous problems among many cases (Kazdin, 2003; Lueger, 2002).

In this particular study, although these internal validity strategies were considered and applied where possible, certain restrictions made it difficult. For instance, although three different data sources were used to collect data, they each measured different constructs. That is, self-reports measured depression, anxiety and self-esteem, reports from support workers measured behaviour, and a structured interview was used to measure social problem-solving skill. This did not allow for the measurement of the same construct from different sources, and did not allow for more objective data collection. Allowing multiple sources to measure the same construct was restricted by time constraints of staff, and by financial and time constraints of the research study. Secondly, although continuous assessment would have allowed for more comparison within the individual (Kazdin, 2003), this may have been too tiring for the participants and self-reports may not have been completed accurately. This restricted the analysis of the data to a simplistic percentage of

change measurement, rather than a more sophisticated comparison of means such as effect size. Thirdly, although the inclusion of more participants would have allowed more comparison between cases, when the study commenced the setting was small and restricted to ten clients. Some were not suitable for training, and two dropped out. This left only three clients, making it difficult to compare results and use the data to generalise to other cases.

This study used an ABA research design to examine psychological distress. In this design baseline data is collected before treatment commences, and should provide data indicating the participant's level of functioning before treatment (Kazdin, 2003). Once treatment begins, this data is expected to show change, and hence the importance of demonstrating a stable baseline before the commencement of treatment. Once treatment is completed, data should move back to initial baseline levels. It is expected that if treatment provides more permanent change, post-treatment and follow-up levels should not reduce down to baseline levels, but would be expected to decrease slightly. Due to the restricted time frame of the present study, data collection points within the baseline phase were limited, and a stable baseline was not established before treatment commenced. This meant that it was difficult to distinguish between the effects of treatment and other unmeasured factors, such as input from different support staff and other services provided by the vocational centre. In addition, mid treatment data was collected during the period when the vocational centre was relocating, and follow-up data was collected during the Christmas period. Individuals with intellectual disability often feel a lack of control over their environment and support workers may not always explain what is happening. This may leave them in a state of uncertainty and anxiety (Lindsay et al., 1997; Ranzon, 2001). Events such as relocating premises and Christmas can be stressful for non-disabled individuals, and when considering how susceptible individuals with intellectual disability are to stress (Ranzon, 2001), it follows that they too would feel anxious. Both these events could have caused anxiety to participants and affected results. The scores at follow-up, however, on the whole, showed slight improvement. This could provide a clear indication that treatment had provided some permanent change, although further follow-up data would need to be collected to confirm this.

In summary, this study was limited in its ability to demonstrate change by its lack of a stable baseline, limited data collection, small sample size, and the inclusion of stressful environmental events during the time of measuring individual change. All these comments withstanding, it is important to remember some benefits of single case-study design such as its use as a source of ideas and new hypotheses, and a source of developing therapy techniques (Kazdin, 2003). This study has suggested that social problem-solving training can improve social problem-solving skills, but has also tentatively shown that it can improve depression and behaviour in this population. This provides future direction for further studies in this area. Furthermore, as discussed later, the study has provided suggestions on how to further develop a manual for social problem-solving training for individuals with mild intellectual disability.

Contextual factors

Previous studies investigating social problem-solving training for individuals with intellectual disability involved groups of participants from community day centres and hospitals (Loumidis, 1993), an outpatient mental health clinic (Nezu & Nezu, 1991) and a vocational training facility (Castles & Glass, 1986). The present study involved three participants from a vocational community centre which was experiencing major growth. At the commencement of the study, the vocational centre had been functioning for just over a year, and provided services for a maximum of ten clients. By the time mid-treatment data was collected, the centre had accepted more clients and the population had doubled. In addition, a large number of temporary and new permanent staff were employed and relocation to bigger premises became necessary. This meant that as staff and clients got to know each other and adapted to the new environment, there was a certain amount of disorganisation. These factors could have had some influence on participants' behaviour and level of psychological distress.

When participants had granted consent to the researcher to use personal information discussed within sessions for the publication of the research, it was given on condition that this information would remain confidential and that their personal names and details would be hidden. This meant that information gained from participants during sessions was

unable to be shared with support staff, unless the participants invited support staff into the sessions. Consequently, personal concerns or problems were unable to be followed through by support staff. When support staff were present during sessions, there was greater continuity and follow through of problem solving. That is, staff were able to assist participants in practicing skills learned during sessions and providing the support when required.

Future research

Although this study did not provide evidence that social problem-solving training can improve self-esteem, D’Zurilla et al. (2003) found that both low self esteem and social problem-solving are risk factors for aggressive behaviour. Self-esteem, being a very stable construct, may be difficult to change over a short period of time. There is a possibility that if social problem-solving training was built into the vocational service as part of its daily routine, improvement in self-esteem and behaviour may eventually occur. Future studies could incorporate self-esteem training as well as social problem-solving training as a long term intervention within a vocational programme.

Some participants struggled with motivation during later sessions, and expressed the view that there were too many sessions. In addition, Case 4 decided not to continue with training after nine sessions. Even though each session had a different goal, there was a lot of repetition of previously introduced concepts. New concepts were revised frequently, and participants showed some frustration when there was repetition of the same concept for practice with hypothetical and for real problems. For example, participants were asked to consider the result of using the concept ‘STOP AND THINK’ for many different problems and during many sessions. Case 1 and Case 4, in particular, appeared bored when this concept was re-introduced, indicating that there was sufficient repetition, very likely enhanced through the provision of the training on an individual basis. An early study in which social problem-solving training was given to a group of mildly and moderately disabled intellectual disabled, indicated that 15 sessions were insufficient for generalisation of skills learned in session (Castles & Glass, 1986). Alternatively, a combination of assertiveness and problem-solving training consisting of five sessions each was enough to

improve behaviour at post-treatment and at three-month follow-up, for 18 intellectually disabled individuals (i.e., Nezu & Nezu, 1991). In the present study, there was no measured change in behaviour, but reports from support workers suggest that there was noticeable improvement in two cases. One recommendation for future research could be that sessions be reduced to nine, but that support staff are trained to apply social problem-solving training as a daily routine within all areas of the community centre, in order to encourage generalisation and promote learning.

The treatment administered in this study did not use a manual, but followed the session-by-session guidelines provided in the Loumidis (1993) study. These guidelines were limited in their detail and specifically meant that supplemental information was required from the D'Zurilla and Nezu (1999) text. In addition, the therapist drafted additional material required for the standardization of between session homework tasks. These were written especially for the population (i.e., simplified explanations of session components with appropriate illustrations). The use of adherence to a treatment manual can aid training of therapists and monitor adherence to procedures, allow for less variability of treatment and more sensitive comparison of treatments. Adherence to a treatment manual is a necessary feature of any research aiming to investigate the effects of treatment (Addis, 1997; Goldfried & Wolfe, 1998; Lambert & Ogles, 2004). In order to establish treatment fidelity (adherence and competence), it is suggested that future research could invest time in formulating a detailed manual of social problem-solving training for this population (including in session and between session exercises, tailored for the individual client).

Finally, research done on the treatment of mental disorders for individuals with intellectual disability in New Zealand is beginning and is promising, but further research is required. Previous research on intellectual disability in New Zealand has focused on the effects of deinstitutionalisation (O'Brien, Thesing, & Tuck, 2001), sociolinguistic skills, social relationships, and leisure (Evans & Meyer, 2001; Henderson, 1991; Holmes & Fillary, 2000), health screening and patterns of care (Hand, 1999; Sewell, 1996; Webb & Rogers, 1999), fire safety (Tiong, Blampied, & le Grice, 1992), sexual exploitation and narrative therapy for the sexually abused (Clare & Grant, 1994; McSherry, 1998), employment (Reid

& Bray, 1997), and prevalence, health status and service needs (Hand, 1993, Reid & Hand, 1995; Molony, 1993; Tonge & Einfeld, 2000). Given the high prevalence of psychiatric disorders within the intellectually disabled population (O'Brien, 2002; Ranzon, 2001), and the promising results of cognitive behavioural therapy for the treatment of depression, anxiety, anger and maladaptive behaviour in this population (Black et al., 1997; Lindsay et al., 1993; Lindsay et al., 1993; Loumidis, 1993; Reed, 1997), it is hoped that future research in New Zealand will focus further on the treatment of mental disorders within this population.

Conclusion

The results of this study have illustrated that social problem-solving skills training for individuals with mild intellectual disability can provide clinically significant improvement in social problem-solving skills. Although depression results did not reach cut-off improvement for clinical significance, there was observed change suggesting that it can improve depression. In addition, there was no measured improvement of behaviour as recorded on the ABS scale, but support workers reported improvement in participants' progress notes. Finally, the effects of treatment would be clearer if a stable baseline was established before the commencement of treatment. In addition, future research may improve results and treatment integrity by taking account of general limitations in the delivery of the treatment in the applied context. This includes the involvement of support staff in the follow-up of between session tasks so that skills learned in session can generalize to different situations and contexts. Secondly, decreasing the number of training sessions, but incorporating self-esteem training and social problem-solving training as a daily routine within the community centre may decrease boredom but allow for more permanent change in behaviour and learned negative global beliefs such as low self-esteem. Finally, the drafting of a detailed treatment manual and the assessment of treatment fidelity (adherence and competence), would provide greater assurance for the internal validity or treatment integrity of research and the utility of outcome data.

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APPENDIX A: INFORMED CONSENT



Problem-solving training

School of Psychology
Private Bag 102 904,
North Shore MSC,
Auckland,
New Zealand
Telephone: 64 9 443 9799
extn 9180
Facsimile: 64 9 441 8157

INFORMATION SHEET

You are invited to participate in a study, which will measure whether problem-solving training can help people to make positive changes in their lives.

Who is doing this study? The person doing this study is Gillian Anderson. This is a student project towards her Masters degree in Psychology. Her supervisor is Dr Nikolaos Kazantzis, School of Psychology, Massey University, Albany.

Who will be asked to participate?

- Clients of [REDACTED] will be asked to be part of the study.

How many people will be participating? We would like to have 6 people participating, but it all depends on how many can manage the training and how many would like to do it.

What information will be collected?

- With your permission, we will ask some questions during an interview, ask you to complete some questionnaires, and ask your key-worker to complete a questionnaire about you.
- We will also ask you if we can have access to your personal files at [REDACTED].
- All of this information will be put together in a report, so that we can measure whether problem-solving skills training has helped you and others.
- All of the information collected from you will be locked away in a **private place** at Massey University. The only people who will be able to look at it will be Gillian Anderson and her supervisor, Dr Nikolaos Kazantzis.
- Before the information is removed from [REDACTED], Gillian Anderson will make sure that your **name and personal information is hidden**, so that no-one can identify you. After 5 years, the personal information will be destroyed.
- Before the report is published, Gillian Anderson will discuss the findings of the study with you and make sure that you are satisfied that your personal information is hidden.

What do we want from you?

- If you decide to take part we will ask you to attend problem-solving skills training every week for 15 weeks for 1 hour. During these sessions we will work through personal problems and help you to solve them.
- We will also ask you to complete questionnaires before, during and after training. Completing the questionnaires should not take you more than 15 minutes. These questionnaires will help us measure if the training is successful.
- This training will take place on [REDACTED] premises, and we will do our best to make a time which suits you best.
- The training will be free.



What are my rights?

- You have a right to refuse to be part of the study.
- You do not have to answer any question or questions.
- If you feel you would like to stop the training at any time you may do so.
- You may ask questions about the study at any time.
- You may have a friend or family member with you during training to help you understand what is going on or to help you ask questions about the study.
- You have the right to read any information written about you and ask for changes.

How do I give my permission to be part of the study?

- We will explain to you what the study and training will involve. If you have any questions we will answer them so that you can understand.
- Once you are satisfied that you understand clearly and would like to be part of the study we will ask you to sign a consent form.
- We would like to audio tape this conversation so that we have proof that you understood what the study was about and that you give consent to being part of it. The tape and consent form will be locked away at Massey University, separate from the other information we have collected from you. The only people who will have access to it will be Gillian Anderson and Dr Nikolaos Kazantzis.

If you have any questions about this study please contact Gillian Anderson at [REDACTED] or Dr Nikolaos Kazantzis at [REDACTED] extn 9098.

If you have questions or concerns about your rights as a participant in this study please contact a Health and Disability Advocate at 0800 555 050.

Thank you for your consideration.

This project has received ethical approval from the Auckland Ethics committee.



Problem-solving training

CONSENT FORM

School of Psychology
Private Bag 102 904,
North Shore MSC,
Auckland,
New Zealand
Telephone: 64 9 443 9799
extn 9180
Facsimile: 64 9 441 8157

I have read, or someone has read to me, the information sheet. This sheet told me about problem-solving training.

I have had the study explained to me and have had the chance to ask any questions. I understand the information that was given to me, and have agreed to this conversation being audio-taped.

I have been invited to ask family or friends to support me and help me understand what the study is about.

I understand that being part of problem-solving training means I am part of the study.

I understand that I am the one who decides if I want to take part in this study, and I have had time to decide whether to take part.

I understand that I can stop being part of the study at any time if I don't like it, or if it appears harmful to me.

I understand that being part of this study means that I will have problem-solving training once a week.

I give permission for Gillian Anderson to collect information from my personal files at [REDACTED], to ask me questions about problem-solving, and to collect information from questionnaires that my key-worker and I have completed. I understand that my name will not be used in the study or any reports.

I understand that this study will finish after 20 weeks.

I know whom to contact if I need to ask more questions about the study.

I _____ (full name) want to take part in this study.

Date:

Signature:

Name of Researcher: Gillian Anderson

Contact number of researcher: [REDACTED]

THIS CONSENT FORM WILL BE HELD FOR A PERIOD OF FIVE (5) YEARS

Version No.2, 28/5/2003

APPENDIX B: SELF-REPORT MEASURES

Adapted Rosenberg Self-Esteem Scale

Participant's code _____

Date of Assessment _____

Below is a list of statements dealing with your general feelings about yourself. Please tick (✓) the box that is closest to the way you feel.

Make a check mark (✓) in the correct column	Strongly agree	Agree	Disagree	Strongly disagree
1. I feel that I am a good person, as good as others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I feel that I have a lot of good qualities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am able to do things as well as most other people	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I feel I haven't done anything worthwhile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I like myself	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. At times I think I am no good at all	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Adapted Zung Anxiety Scale

Participant's code _____

Date of assessment _____

Please read each statement and decide whether the statement describes how you have been feeling during the last week.

Make a check mark (✓) in the correct column	Yes	No
1. Do you feel more nervous and anxious than usual?		
2. Do you feel afraid for no reason at all?		
3. Do you get upset easily or feel panicky?		
4. Do you feel like you are falling apart and going to pieces?		
5. Do you feel that everything is all right and nothing bad will happen?		
6. Do your arms and legs shake and tremble?		
7. Are you bothered with headaches, neck and back pains?		
8. Do you feel weak and get tired easily?		
9. Do feel calm and can you sit still easily?		
10. Can you feel your heart beating fast?		
11. Are you bothered by dizzy spells?		
12. Do you have fainting spells or feel like it?		
13. Can you breath in and out easily?		
14. Do you get feelings of numbness and tingling in your fingers and toes?		
15. Are you bothered by stomach aches or indigestion?		
16. Do you have to empty my bladder often?		
17. Are your hands usually warm and dry?		
18. Does your face get hot and go red?		
19. Do you fall asleep easily and get a good night's rest?		
20. Do you have nightmares?		

Adapted Zung Depression Scale

Participant's code _____

Date of Assessment _____

Please read each statement and decide whether the statement describes how you have been feeling during the past week.

Make a check mark (✓) in the correct column	Yes	No
1. I feel down-hearted and blue		
2. Morning is when I feel the best		
3. I have crying spells or feel like it		
4. I have trouble sleeping at night		
5. I eat as much as I used to		
6. I notice that I am losing weight		
7. I have trouble with constipation		
8. My heart beats faster than usual		
9. I get tired for no reason		
10. My mind is as clear as it used to be		
11. I find it easy to do the things I used to		
12. I am restless and can't keep still		
13. I feel hopeful about the future		
14. I am more irritable than usual		
15. I find it easy to make decisions		
16. I feel that I am useful and needed		

How Much Did You Practice? *

Instructions: Tick the box that describes how much you practiced the task (activity) from your last session. This form will be kept private (your name will be hidden). Please answer all three questions. Thank you.

1. How much did you practice the task?

☐

None

☐

A little

☐

Quite a lot

☐

A lot

☐

All the time

2. How well did you practice the task?

☐

Not at all

☐

Somewhat

☐

Quite well

☐

Very well

☐

Extremely well

3. How hard was the task?

☐

Not at all

☐

Somewhat

☐

Quite hard

☐

Very hard

☐

Extremely hard

APPENDIX C: SOCIAL PROBLEM-SOLVING
SKILLS MEASURE

Interview guidelines for the assessment of problem-solving skills

Eight problems are presented, after which a series of questions are asked.

The problems are:

1. Say, one day you wanted to watch TV and the TV was not working.
2. Say you wanted to buy a present for a friend, but you had no money
3. Say you didn't like the place you were working and you wanted to change groups.
4. Say there was a person here that you would like to become your boy-girlfriend
5. Say you had no friends at home and you were feeling lonely.
6. Say one day staff blamed you for trouble you hadn't done.
7. Say one day one person you live with started telling lies about you.
8. Say one day you went shopping and the person at the shop was ignoring you and not serving you.

The series of questions asked for each problem are as follows:

1. Is there a problem here if (repeating the vignette)?
2. Why is this a problem?
- 3a. What are the things you could do to deal with this problem?
- 3b. Are there any other things you could do? (repeat this question up to 4x)
- 4a. Which one of all these things would you choose to do?
- 4b. Why would you choose this one?
- 5a. What are the things that you would need to think about before doing that? (repeat response from 4a)
- 5b. What are the steps that you would take then? (repeat if necessary as 'what would you do first?').

Adapted from: Loumidis, K. (1993). *Learning disabilities (mental handicap) and social problem solving skills: Evaluation of a therapeutic training programme*. Unpublished doctoral thesis, Keele University, Staffordshire, England.